EMOTIONAL DISCLOSURE THROUGH WRITING AND DRAWING: A CONTROLLED TRIAL ON EMOTION REGULATION, COPING, AND SUBJECTIVE WELL-BEING OUTCOMES

A dissertation submitted

by

Lily Amorous

B.Psych (Hons).

Being a dissertation submitted as partial requirement for the post-graduate degree of Doctor of Philosophy, Clinical Psychology, Faculty of Science and Engineering, School of Psychology, University of Tasmania, Hobart, April, 2012.

Declaration of Originality

This thesis contains no material which has been accepted for a degree or diploma by the University or any other institution, except by way of background information and duly acknowledged in the thesis, and to the best of my knowledge and belief no material previously published or written by another person except where due acknowledgement is made in the text of the thesis, nor does the thesis contain any material that infringes copyright.

Signed: ……. Date:……./……./……...

Statement of Authority of Access

This thesis may be made available for loan and limited copying and communication in accordance with Copyright Act 1968.

Signed: ……. Date:……./……./……...

Statement of Ethical Conduct

The research associated with this thesis abides by the international and Australian codes on human and animal experimentation, the guidelines by the Australian Government's Office of Gene Technology Regulator and the rulings of the Safety, Ethics and Institutional Biosafety Committees of the University.

Signed: ……. Date:……./……./……...

Abstract

Regulating emotions is important for a number of adaptive outcomes such as satisfaction with life and coping. Research has demonstrated that the inability regulate emotions can impact on health, psychological conditions, social functioning, and can increase the use of maladaptive coping strategies. Therefore, strategies that facilitate emotion regulation become imperative to well-being and coping outcomes. Recent studies have investigated the efficacy of emotional disclosure writing as an emotion regulation technique and found effects such as increased life satisfaction, improved interpersonal relationships, and improved coping. The purpose of this study was to determine if emotional disclosure through drawing would have an effect on emotion regulation, well-being, and coping similar to the effects of emotional disclosure writing, as this would enable illiterate or hard-to-reach at-risk populations to benefit from the effects of emotional disclosure. The study used a community sample (N = 115) in a controlled trial design with five experimental conditions; emotional disclosure writing (EDW; n = 29), emotional disclosure drawing (EDD; n = 22) placebo writing (PDW; n = 18), placebo drawing (PDD; n = 16), and control (n = 30). Emotional disclosure participants drew or wrote about their emotions for 30-60 minutes once a week for 4-weeks, placebo groups focused on the contents of their wardrobe. Participants in the writing and drawing conditions filled in PANAS-X questionnaires prior and after their weekly sessions. Outcomes were measured prior to and 6-months post disclosure. Data were analyzed using Repeated Measures Analyses of Variance to evaluate within and between group differences. There were significant effects on the COPE subscales of Positive Reinterpretation and Growth (F(4, 81) =

3.13, $p < .05$), Mental Disengagement ($F(4, 81) = 3.23$, $p < .05$), and Active Coping ($F(4, 81) = 6.16$, $p <. 001$), Religious Coping ($F(4, 80) = 3.11$, $p < .05$), Restraint ($F(4, 81) = 4.60$, $p < .05$), Substance Use ($F(4, 81) = 4.19$, $p < .01$), Planning ($F(4, 81) = 7.72$, $p < .01$), and the OQ-45 interpersonal relations scale ($F(4, 81) = 2.56$, $p < .05$). In these analyses, participants in the disclosure groups outperformed those in placebo or control. Furthermore, the EDD group reported greater increases in adaptive coping strategies and greater decreases in maladaptive coping strategies compared to the EDW group. No effects were found for satisfaction with life. The PANAS-X analyses showed a group effect on positive affect ($F(3,82) = 3.13$, $p < .05$), with significantly larger increases for the EDD group. There was also a time*group interaction on negative affect ($F(9,252) = 2.26$, $p < .05$) suggesting significant increases in negative affect in EDW, whilst the EDD group decreased. In summary, this suggests that EDW and EDD differentially affect emotion regulation and coping. This has implications for the application of emotion regulation techniques.

ACKNOWLEDGEMENTS

I would like to firstly thank my supervisor Dr Benjamin Shűz. Your encouragement and guidance came at the right time. I am deeply grateful for your support, humour, positiveness, patience, and investment in helping me with the thesis. This thesis could not have been achieved without you. I'm forever in debt.

Thank you to my parents, Libby and Roy Pemberton, who have supported me through out my PhD. I could not have completed this journey without you both, and am forever grateful. Gratitude is also expressed to my G.P. Dr Michael Welch, who helped me through medical challenges with his unconditional support, guidance, and hugs. I would also like to acknowledge and extend deep gratitude to Suzanne Calomeris, for her friendship and ongoing support. Blessings to you Suzanne, you are my partner in crime.

Thank you to my dear friend's and whom I have had the fortitude to share moments, inspiration, joy, and support with along this journey; Kirstie Turnbull, Sharlie Parker, Livio Muench, Janet Freestun, Liz Hyslop, and Julian McGarry. Finally, thank you to Amanda Lynch, Rodleigh Stevens, and my extended circus family who invest in me with their love, support, and physically and emotionally torturously challenging tasks, so that I may grow as a person.

Dedicated to Uncle Andy

CONTENTS

TABLE OF FIGURES

LIST OF TABLES

CHAPTER I

"Feelings are much like waves, we can't stop them from coming but we can choose which one to surf" Jonatan Martensson

The ability to regulate emotion has immense implications for everyday functioning and psychological health (Moore, Zoellner, & Mollenholdt, 2008), such as resilience to stressful events, and personal growth (e.g., Bonanno, 2004). The inability to adequately regulate emotions can result in poor outcomes, for example, social difficulties (Wranik, Barrett, & Salovey, 2007; Shaver & Mikulincer, 2007), and physical illness such as cardiovascular disease (Guyton & Hall, 1997). Psychologically, over half of DSM-IV Axis I and II disorders inhabit disturbances in emotion regulation, for example posttraumatic stress disorder, anxiety and depression (e.g., Moore et al., 2008).

Furthermore, emotion regulation has implications for an individuals' persuasion to adopt adaptive or maladaptive coping strategies when faced with stressors, which can then impact on well-being outcomes. Therefore, the ability to identify, express, process, and resolve emotions is of particular importance to therapeutic outcomes.

Whilst the verbal expression of emotion has been an imperative focal point within psychotherapy (Graf, 2004), there is limited empirical evidence that psychological treatment alters emotion regulation. This means that illustrating how emotion regulation is changed by therapeutic interventions is undoubtedly among the most important avenues for future research (Rottenberg & Gross, 2007). Furthermore,

establishing tools that address and enhance emotion regulation, and identifying their impact on well-being outcomes, is of particular importance. Emotional disclosure is one such method that promotes emotion regulation and includes methods such as writing about emotional experiences.

Research has supported the use of emotional disclosure writing to regulate emotions (e.g., Pennebaker, 1990; Smyth, 1998; Smyth & Pennebaker, 1999; Klein & Boals, 2001; & Kerner & Fitzpatrick, 2007) and has been shown to produce improvements in well-being (e.g., increased life satisfaction, Schutte et al., 2012). However, it poses limitations such as conflicting theories as to the working mechanisms of emotional disclosure, why it does or does not work, for whom it works best for, and which instructions facilitate particular outcomes. The disclosure method also excludes populations with poor literacy skills, or limited communication skills.

A further limitation is that emotional disclosure writing can increase negative affect directly after disclosure (e.g., Greenberg et al., 1996). Given that successful emotion regulation of negative affect is a necessary component in the coping process (Folkman & Moskowitz, 2004), disclosure methods that increase negative affect may ultimately increase the likelihood that a person will adopt maladaptive coping strategies, and increase their distress with outcomes such as decreased life satisfaction, and psychological symptoms (e.g., Zautra et al., 1995). Therefore, the need to investigate other emotion regulation techniques is imperative.

It is proposed that emotional disclosure drawing may serve as a non-literacy based emotional expressive medium that provides an environment for emotion regulation. Currently, whilst drawing is often used in clinical contexts, there are very few

investigations into its effectiveness. Studies that do investigate it are often fraught with methodological issues. Investigating emotional disclosure drawing as a potential emotion regulation strategy would begin to address the lack of, and poor quality studies in this area. This is particularly vital given that there are ethical issues involved in providing treatment modalities that are not substantiated by empirical research.

To date, no studies have investigated the comparative use of emotional disclosure writing and emotional disclosure drawing. Thereby, there is a significantly large gap in the literature. It is proposed that by exploring emotional disclosure drawing and writing as an emotion regulation strategy in a randomized controlled trail design, that this study will assist in establishing an alternative emotion regulation intervention to writing; explore the effect of such emotion regulation interventions on positive and negative affect, and explore both disclosure methods impact on well-being variables (e.g., coping, symptom distress, social role, interpersonal relations, and satisfaction with life). The investigation may assist in providing a basis for the use of emotional disclosure drawing as a specific emotion regulation strategy within the therapeutic context, to assist in the treatment of psychological disorders that exhibit emotional dysregulation.

CHAPTER 2

The emotional environment of coping

Regulating emotions is a substantial part of coping. Furthermore, coping can serve as both an initiator of emotion regulation, and as an outcome of emotion regulation. Lazarus's (1966) cognitively oriented theory of coping is inclusive of emotions and their relationship with cognitions within the coping process. Lazarus asserts that the appraisals during the coping process are often characterized by intense negative emotions. Coping responses are thus initiated in an emotional environment, and often one of the first coping tasks is to down regulate negative emotions that may be interfering with vital components of coping (Folkman & Moskowitz, 2004).

Emotions continue to be integral to the coping process throughout a stressful encounter as an outcome of coping, as a response to new information, and as a result of reappraisals of the status of the encounter. If the encounter has a successful resolution, positive emotions will predominate; if the resolution is unfavorable, negative emotions will predominate (Folkman & Moskowitz, 2004). Therefore, it is important to investigate how coping strategies serve as emotion regulation mechanisms on positive and negative affect, and the impact on well-being outcomes. This next section discusses the role of positive affect and negative affect in the role of coping, and resulting outcomes.

The Role of Positive and Negative Affect in Coping

The presence of positive affect and negative affect has been shown to be an important factor in the choice to use either maladaptive or adaptive types of coping.

For example, Zautra et al., (1995) used the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) to examine positive affect, negative affect, and their correlates in three samples of rheumatoid arthritis patients. Both positive affect and negative affect were related to coping strategies, with increased negative affect and decreased positive affect associated with the use of passive or maladaptive coping (e.g., restricted activities). In contrast, only positive affect was associated with active or adaptive coping (e.g., maintaining activities in spite of pain).

Hansdottir et al., (2004) examined the role of positive affect and negative affect as an outcome to the adjustment to coping with a chronic rheumatic disease. Participants using relatively more adaptive coping strategies (e.g., seeking social support, and counting blessings) reported higher positive affect, whereas those using relatively more maladaptive coping strategies (e.g., self-blame, blaming others, and avoidance) reported higher negative affect. Additionally, pain was related to both affect variables, with systemic sclerosis patients reporting more positive affect experiencing less pain, and those reporting more negative affect experiencing more pain. Affect mediated the relationship between coping and functional outcomes.

Previous theoretical models of stress and coping do not make separate predictions for how coping relates to positive versus negative affect states. Studies of adjustment to chronic illness have shown that coping can determine affective responses, but have primarily focused on negative affect as an outcome. This focus reflects the tendency in past research to identify factors that impact or reduce distress, or negative affect, as opposed to factors that increase positive affect and, in general, quality of life.

Furthermore, it would be important to utilize particular strategies that intercept at various points of emotional experience during the coping process, and that target positive and negative affect differently. For example, it may be helpful to firstly use interventions that help individuals identify or heighten their awareness of their current emotional state, then another intervention to adaptively resolve negative emotions and promote positive emotions. Such a strategy would be termed an emotion regulation strategy and could include emotional disclosure writing, and potentially also emotional disclosure drawing. Successful emotion regulation can then result in producing well-being outcomes and encourage adaptive types of coping. Given that the role of emotion is an integral part of initiating the coping process and continues to impact on well-being, this next section further explores the role of emotion in the context of specific coping approaches.

Problem-focused & Emotion-Focused Coping

Coping researchers often differentiate between emotion-focused coping and problem-focused coping when discussing the use of emotional strategies in coping. Problem-focused coping is aimed at problem solving to alter the source of stress. Strategies include defining the problem, generating and weighing up alternative solutions, evaluating the pros and cons of different options, and implementing a plan of action. Emotion-focused coping is aimed at reducing or managing the emotional distress that is associated with the stressor. Strategies include avoidance, denial, focusing on and venting of emotions, seeking social support (instrumental), seeking emotional support, and positive reappraisal (Austenfeld & Stanton, 2004).

Whilst most stressors elicit both types of coping, problem-focused coping tends to predominate in situations that one can influence (Lazarus, 1985), and of which have the potential for improvement. Therefore, this style of coping may be most beneficial for populations dealing with overt stressors such as improving academic grades, increasing fitness, or weight loss. Accordingly, an individual who selects problem-focused coping strategies in such situations should lessen the source of stress and demonstrate positive psychological well-being (e.g., reduced levels of anxiety and depression) (Snyder & Dinoff, 1999). Conversely, emotion-focused coping tends to predominate when people feel that the stressor is something that must be endured such as grief and loss, or chronic illness (Lazarus & Folkman, 1984).

Research on the related outcomes of problem-focused coping and emotion-focused coping has reported that; in general, problem-focused coping has been found to relate to fewer post-traumatic symptoms than the use of emotion-focused coping (e.g., Blake, Cook, & Keane, 1992; Mikulincer et al., 1993). In the majority of studies of coping and adjustment, emotion-focused coping has been associated with higher levels of distress (e.g., Kauser & Powell, 1999; Fisher, Segal, & Coolidge, 2003).

A key criticism of problem and emotion-focused coping is that they are poorly categorized. For example, within the realm of psychometrics, research typically finds that responses to the Ways of Coping Scale (Folkman & Lazarus, 1988), which derives its structure from the two categories of problem-focused coping and emotion-focused coping, form several factors rather than just the two (e.g., Aldwin & Revenson, 1987; Folkman et al., 1986). In general, researchers view factors other than problem-focused coping as variations on emotion-focused coping. However, these

factors often diverge quite sharply in character, to the extent of being inversely correlated (Scheier et al., 1986).

Stanton and colleagues (Stanton et al., 1994; Stanton et al., 2000a; Stanton et al., 2000b) assert that this finding is due to several flaws in the way emotion-focused coping is measured. Objective measurement of constructs is crucial in order to ensure that results from studies are not affected by confounding factors (Stanton & Franz, 1999) and that the methodology is valid, and reliable, thus producing sound conclusions.

The measurement of emotion-focused coping presents the following flaws; first, emotion-focused coping has included numerous types of coping strategies in its overall framework. That is, some emotion-focused responses involve denial, whilst others involve seeking out social support. These responses are very different from one another, and may have very different implications for a person's success in coping.

For example, because denial based strategies fail to resolve underlying issues that are generating the stress, they can be expected to induce greater levels of long-term distress compared to more active approaches such as seeking social support (Watson, David, & Suls, 1999). The issue of conflicting approaches within the overall framework of the type of coping is also present in problem-focused coping.

Second, emotion-focused items that indicate approach (e.g., "I get upset and am really aware of it") and items that reflect avoidance of emotions (e.g., "I try not to think about it") are often combined into a single scale when, in fact, their effects may be very different and they may actually be inversely correlated. Third, many of the emotion-focused items on the most commonly used coping scales are confounded with

distress, for example, “I get upset and let my emotions out,”(Carver et al., 1989), and “I become very tense”(Endler & Parker, 1990). Consequentially, these confounded items result in erroneous measurement when emotion-focused coping measures are associated with indices of distress or psychopathology (Stanton, Parsa, & Austenfeld, 2002).

Carver et al., (1989) addressed these concerns of problem-focused and emotion-focused coping, and developed a measure titled ‘COPE’ to assess dispositional coping strategies that can be categorized into three groups accordingly to their function and adaptability. The group of problem-focused coping comprises of the strategies of active coping, planning, and suppression of competing activities, restraint, and seeking social support for instrumental reasons.

The group of adaptive emotion-focused coping includes strategies such as seeking social support for emotional reasons, positive reinterpretation and growth, acceptance, religion, and humour. The group of maladaptive emotion-focused coping comprises of strategies such as denial, mental disengagement, behavioural disengagement, focus on and venting of emotions, and substance use (Vollrath, Alnaes, & Torgersen, 1994). As a result, researchers were able to discern more specific strategies and identify their impact on specific outcomes and the coping process. For example, the single strategy of denial, whilst it may be useful at early stages of a stressful transaction, may result in impeding coping at a later stage (Levine et al., 1987; Mullen & Suls, 1982; Suls & Flethcher, 1985).

Whilst the concept emotion-focused coping has been advanced by the likes of Carver et al., (1989), historically, the work on emotions within the coping process has

been stunted by the traditional culture of psychology presenting emotions as maladaptive (Stanton et al., 1994). However, functionalist approaches of emotion are now focusing on the potentially adaptive nature of emotion (e.g., Smith, 1991; Izard, 1993; Ekman, 1994).

Emotional Approach Coping

Stanton et al., (2000b) developed a scale to assess coping through emotional approach that was uncontaminated by items of distress. The emotional approach coping scale consists of two subscales: emotional processing (e.g., "I realize that my feelings are valid and important") and emotional expression (e.g., "I feel free to express my emotions") (Stanton et al., 2000b). The subscales have acceptable reliability and validity and are relatively distinct from other forms of coping (Stanton et al., 2000b). Research has also demonstrated positive outcomes related to emotional approach coping, such as decreased depression and hostility, and increased hope and life satisfaction (Stanton et al., 2002).

In a study of women with breast cancer (Stanton et al., 2000a), coping with cancer through emotional expression was associated with improved perceptions of health, decreased distress, fewer medical visits, and increased vigor at a three-month follow up. Coping through emotional processing however, was associated with increases in distress over the three-month study period. Stanton et al., (2000a) suggest that although emotional processing appears to be adaptive in the short-term, over the long-term it may become ruminative and therefore less beneficial in terms of adjustment (see also: Nolen-Hoeksema, 2000; Nolen-Hoeksema & Davis, 1999; Nolen-Hoeksema et al., 1999).

In summary, initial investigations of coping perceived emotion as relatively maladaptive, however changes to the measurement of emotion-focused types of coping have resulted in presenting emotion as adaptive in producing positive outcomes in well-being. The teaching of specific emotion-focused coping skills (e.g., emotional disclosure writing) can enhance an individual's ability for emotion regulation (Vollrath, Alnaes, & Torgersen, 1994) and nurture well-being outcomes (e.g., increased life satisfaction, decreased depressive symptoms). Different types of emotion-focused coping may be useful in targeting either positive or negative emotion regulation, and therefore produce radically different well-being outcomes.

As previously stated, increased negative affect can produce increased negative outcomes (e.g., increased pain, maladaptive coping strategies) whilst increased positive affect can lead to increased positive outcomes (e.g., less pain, adaptive coping strategies). Therefore, emotion-focused strategies to enhance the regulation of positive and negative affect such as emotional disclosure writing and emotional disclosure drawing can not only function to assist successful emotional regulation, but also assist in the employment of adaptive coping strategies, resulting in producing increased well-being outcomes (see Figure 1).

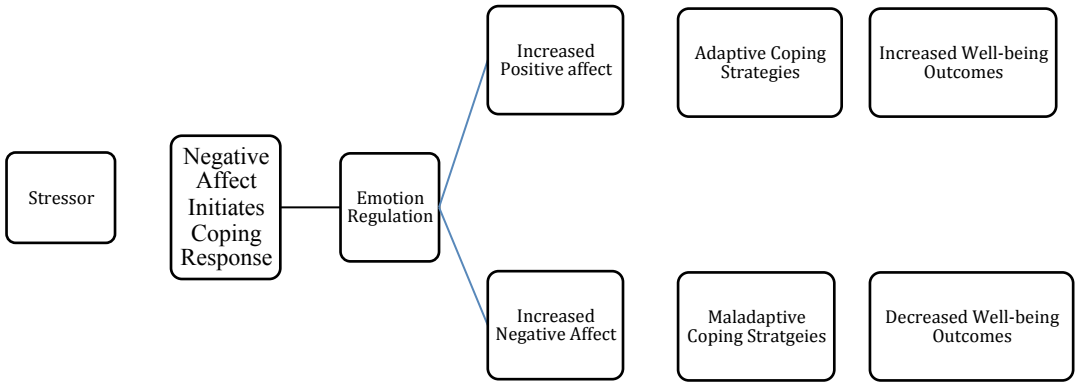

Figure 1. Conceptual model of coping, emotion regulation, and well-being outcomes (based on Zautra et al.,1995; Hansdottir et al., 2004; Lazarus, 1966).

Emotion Regulation

Of particular interest to this study, and the domain of psychotherapy, is the interaction between individuals and their emotional experience, specifically, the area of emotion regulation. Stanton and Franz (1999) assert that no universally accepted definition of emotion exists, although many researchers agree that emotions are a relatively brief form of affect and are generated when an external or internal event signals to the individual that something important may be at stake (Ekman, 1992; Frijda, 1986). Emotions include the following components: experiential (affect and

appraisal), central and peripheral physiological systems (Rottenberg & Gross, 2007), and behavioural (or action readiness) (Izard, 1993; Levenson, 1994) (see Figure 2).

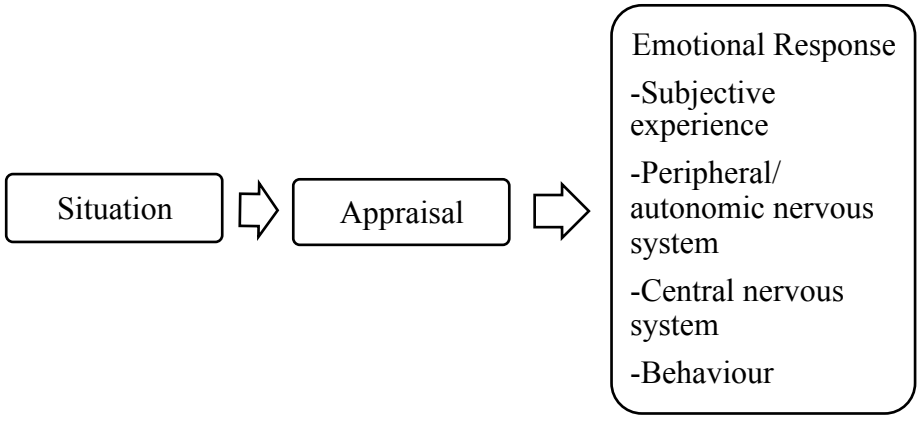

Figure 2. A consensual component model of emotional responding (Mauss & Robinson, 2009)

Emotion regulation refers to attempts individuals make to influence which emotions they have, when they have them, and how these emotions are experienced and expressed (Sloan & Kring, 2007). Eisenberg et al., (1997) identify two types of emotion regulation: one that involves regulating the internal feeling states and associated physiological processes (emotion regulation) and the second that involves regulating the behavioural components of emotion (emotion related behaviour regulation).

Eisenberg et al., (1997) classify both coping and emotion regulation under the larger category of self-regulation and note that coping involves the regulatory processes that occur in stressful contexts. It is also important to distinguish that although problem-focused coping is initiated by the occurrence of a negative emotion, problem-focused forms of coping do not fall under the category of emotion regulation

in the sense that they are aimed at changing the source of the stress and, therefore, can be seen as non emotional actions (Gross, 1998a).

Conversely, emotion-focused coping and emotional approach coping can be considered within the emotion regulation framework because the strategies are elicited in response to the depiction of disturbing, stressful events that the individual is unable to control or change, and involve strategies that aim to modulate emotional experience. It is important to explore how different strategies of emotion regulation produce different outcomes.

Richards and Gross's (2000) research compared an antecedent-focused form of regulation; reappraisal, to a response-focused form of regulation; suppression. In summary, it was found that reappraisal and suppression have different affective, cognitive, social, and physiological consequences. For example, compared to participants in a control condition who were instructed to simply watch a distressing film clip, participants who were told to inhibit their emotional expression while watching the clip (the suppression condition) had poorer recall for details of the clip in an unexpected test at the end of the session (Richards & Gross, 2000).

In a second study, one group of participants was instructed to reappraise a set of emotionally evocative slides by viewing them as medical professionals would. When compared to the suppression group, which was instructed to suppress their emotional expression in response to the slides, the reappraisal group had better performance on a subsequent test in which they were asked to write down information associated with each slide (Richards & Gross, 2000). This may imply that upon suppressing emotions, that information processing decreases.

Theoretically, the work on emotion regulation adds to the coping literature by providing an in-depth look at the effects of some forms of emotion-focused types of coping. Richards and Gross's (2000) results accentuated how specific emotion regulation strategies result in different outcomes. Rottenberg and Gross (2007) hypothesize that given the potentially adaptive strategies of emotion regulation (e.g., reappraisal), then psychologically based treatments can assist in clients developing more adaptive emotion regulatory strategies.

It has been discussed thus far that emotion regulation strategies reside under the larger context of coping, and involves strategies to regulate positive and negative emotion, this then leads to the employment of either adaptive or maladaptive coping strategies and impact well-being variables (e.g., life satisfaction, psychological symptoms, social role, and interpersonal functioning). Written emotional disclosure has been identified as one such emotion-focused strategy for emotion regulation. Perhaps one of the most striking elements of emotional disclosure writing is its direct impact on such a diverse range of well-being outcomes and yet, the mechanisms underlying the process are still undetermined (Frattaroli, 2006).

CHAPTER 3

Theories of Disclosure

One method of emotion regulation is emotional disclosure. Emotional disclosure can be in written form, and has been identified as a way to increase well-being outcomes and improve coping (e.g., Schutte et al., 2012). Since the inception of emotional disclosure writing, the most controversial aspect has been the mechanism by which it provides health and psychological benefits. Researchers have proposed several theories as to why emotional disclosure writing is effective, two of which link closely to the broader concept of emotion regulation and coping (e.g., exposure theory and self-regulation theory). Although this current study does not examine the mechanism by which emotional disclosure provides benefit, a review of mechanisms is important to the current study in terms of exploring alternative emotion regulation strategies.

According to the inhibition theory (Pennebaker, 1989) which stemmed from the Freudian catharsis idea, inhibited thoughts and feelings of upsetting events is harmful, and that releasing and expressing such thoughts can reduce stress and improve a variety of physical and psychological health outcomes. This idea was reinforced by many of the initial studies which encouraged participants to write about topics previously not discussed with others or aspects of their lives that they felt guilty about (Frattaroli, 2006). Instructions for written emotional disclosure further supported the cathartic explanation for emotional disclosure benefits by encouraging participants to "let go".

In contrast to the inhibition theory, the cognitive processing theory argues that experimental written disclosure works because it allows the individual to gain insight, make sense, and assist in organizing and integrating the trauma into the self-schema. In support of this theory, Pennebaker (1993) consolidated results from five initial experimental disclosure studies and developed a computerized text analysis program to examine the words used during writing exercises.

Pennebaker discovered that participants who had benefited most from experimental disclosure in previous studies demonstrated an increase in the use of causation words (e.g., because, cause, effect) and insight words (e.g., consider, know) during the course of their writing session. Comparatively, those who did not benefit from the experimental disclosure did not show any increased use of such words. Pennebaker (1993) asserted that the act of making sense of an event, of gaining insight about a trauma, and of organizing and integrating an upsetting experience into one's self-schema is the mechanism by which expressive writing is helpful.

A model that has received less attention in the research is the social integration model (Pennebaker & Graybeal, 2001). The social integration model proposes that written emotional disclosure affects the way people interact with their social world, which results in improvements in their health and well-being. However, the social integration theory raises important considerations and implications for the relationship and impact between emotional disclosure techniques and the social environment, as both an outcome, and as a potential mechanism for supporting gains made from the disclosure technique.

The exposure theory of written emotional disclosure asserts that the repeated exposure to aversive stimuli, thoughts, and feelings, until they become extinguished, is the effective mechanism of emotional disclosure. Exposure theory has a relationship with emotion regulation given that by engaging in repeated exposure to emotions or emotion producing thoughts, it can serve to regulate the effect, experience and expression of such emotions, thus it falls under the rubric of emotion regulation.

The self-regulation theory argues that disclosure allows people to observe themselves expressing and controlling their emotions, which in turn, gives them a new or stronger sense of self-efficacy for emotional regulation. This results in the individual feeling as though their challenges are more controllable, hence reducing negative affect, and also leading to a number of positive outcomes (e.g., increased self-efficacy; Lepore et al., 2002). It is also asserted that this very process of self mastery accounts for the recent influx of studies that replicate the benefits of typical written emotional disclosure without eliciting all the short-term negative affect that writing about a trauma often produces (Lepore et al., 2002).

A key criticism in exploring the theories of disclosure is the need for a single theory to explain the underlying mechanisms. Furthermore, initial studies regarding the theories of emotional disclosure was correlational in design using post-hoc analyses that examined predictors of change among specific participants who demonstrated the highest level of clinical improvement (Nazarian, 2009). Research has since begun to employ more experimental designs, however there is still a tendency to interpret results in a manner that seeks to identify a single mechanism at work, as opposed to several working mechanisms.

Consequentially, the exploration of a singular mechanism may have stunted the progress in the field by perpetuating the idea that only one mechanism is responsible for results (Nazarian, 2009). Lepore and Smyth (2002) assert that emotional disclosure writing is likely to be effective on outcomes such as health and overall well-being, due to the interplay of various pathways that include emotional, cognitive, and biological processes. Nazarian (2009) asserts that by employing a pluralistic model, researchers would then be able to assess in a multidimensional framework the working mechanisms within individuals, in different environments.

Identifying mediators is further confounded by limitations concerning how to test specific theories. Nazarian (2009) asserts that researchers include dependent variables that relate to the specific mechanisms of interest. For example, Park and Blumberg (2002) investigated the cognitive processing theory, but only included measures for their dependent variable of cognitions such as cognitive appraisal to measure cognitive change. Thus their results supported the cognitive processing theory of disclosure. However, this may be a result of changes in unmeasured emotional reactivity rather than changes in cognitive processes (Bootzin, 1997).

Predictions associated with specific theories may inadvertently access processes associated with other specific mechanisms. Furthermore, as per the multidimensional framework of theories suggested previously, changes in outcome variables may be attributable to more than one mechanism. Whilst the underlying mechanisms remain undetermined, there is extensive research demonstrating the effectiveness of emotional disclosure within the rubric of emotional disclosure writing.

CHAPTER 4

Emotional disclosure writing

Emotional disclosure has been largely operationalized by the use of written emotional disclosure. The first study that systematically explored emotional disclosure writing, was conducted by Pennebaker and Beall (1986). The study randomly assigned participants to one of four groups: a trauma-fact group (participants wrote only about facts surrounding their trauma); a trauma-emotion group (participants only wrote about the emotions surrounding their trauma); a trauma-combo group (participants wrote about both the facts and emotions surrounding their trauma); and a control group (participants wrote in a non-emotional manner about a neutral event). Results reported that the trauma-combo group (but not any of the other three groups) demonstrated a reduction in illness related doctor's visits.

Early research on experimental disclosure was conducted mostly on healthy university students as participants, and typically either asked them to write about a traumatic event, their most stressful experience, or their experience of recently starting university. Researchers measured participants on a variety of health and well-being variables prior to the intervention and again several weeks or months post intervention. Initial results from such studies found improvements in a variety of well-being variables including; increased immune functioning (r = .29) (Pennebaker, Kiecolt-Glaser, & Glaser, 1988), reduced absenteeism rates from work (r = .05) (Francis & Pennebaker, 1992), and improved grade point average (r = .13) (Pennebaker & Francis, 1996).

Following almost a decade of research of experimental disclosure with healthy student populations, the research was transferred to populations in the community who identified with experiencing an upsetting event. Diverse benefits within this community sample included helping unemployed engineers find employment faster (Spera, Buhrfeind, & Pennebaker, 1994), helping female caregivers reduce post-traumatic stress symptoms (Campbell, 2003), and helping incarcerated men take fewer trips to the infirmary (Richards et al., 2000). However, not all studies using community samples with specific stressors reported benefits from experimental disclosure.

For example, widowed community members who were assigned to write about their loss did not show any improvement over control participants on physical or psychological health outcomes (Stroebe et al., 2002). These results are attributed to the notion that natural and normal adjustment processes such as grief are time dependent (i.e., naturally resolve over time). Whereas undisclosed trauma such as those samples often used in many written emotional disclosure studies (e.g., Paez et al., 1999; Bodor, 2002), is expected to stay the same without the application of the disclosure intervention (Stroebe et al., 2002). Stroebe et al., (2002) assert that based on their results in conjunction to the findings of other studies on grief, that emotional disclosure interventions are not effective for natural resolution processes.

Shortly after the publication of studies of distressed community samples, researchers began to turn their attention to cohorts of people with medical ailments, including those with rheumatoid arthritis, asthma, and migraine headaches. Kelley, Lumley, and Leisen (1997), investigated the effects of emotional disclosure on a

sample of participants with rheumatoid arthritis. Results demonstrated that those who wrote expressively about traumas reported less physical and affective dysfunction when compared to the non-writing control group. Despite these promising results, it was also reported that there were no significant differences between groups concerning arthritis related pain or objectively measured joint conditions.

Other recent findings of participants with medical conditions have reported reductions in cancer related doctor's visits for breast cancer patients assigned to an experimental disclosure group (Stanton et al., 2002), a reduction in distress for migraine headache sufferers (McKenna, 1997), and a reduction in depressive symptoms for community members with Type 1 diabetes (Bodor, 2002).

Emotional disclosure has also been investigated with participants exhibiting psychiatric and psychological problems. Results thus far have been mixed. Some studies have reported the intervention to be effective. For example, Russ (1992) found that disclosure improved psychological and physical health for college students with a history of anxiety. Conversely, several studies have found null effects for former psychological patients (Bird, 1992), participants with negative body image (Earnhardt et al., 2002), and those with suicidal tendencies (Kovac & Range, 2002).

Other studies have reported that emotional disclosure writing has a range of benefits including improvements in health, psychological well-being, physiological functioning, and general functioning (e.g., grade point average) (Smyth, 1998). Other studies have demonstrated that writing about traumatic events can promote effective coping (Lumley & Provenzano, 2003; Pennebaker, Colder, & Sharp, 1990), decrease depressive symptoms by attenuating the negative emotional effects of intrusive

thoughts (Lepore, 1997), promote positive growth (e.g., improved interpersonal relationships, greater appreciation for life), and increases in working memory capacity (Klein & Boals, 2001).

Studies have also demonstrated significant decreases in the occurrence of physical illness due to stress (Greenberg, Wortman, & Stone, 1996; Pennebaker, Kiecolt-Glaser, & Glaser, 1988). It is proposed that writing positively affects the immune system by accelerating the production of lymphocytes that fight off disease (Pennebaker, 1990; Pennebaker et al., 1988). Thus, given that the suppression of negative and painful emotion can contribute to the development of chronic autonomic arousal and resulting weakening of the immune system (King, 2002), it can be proposed that disclosure through writing can release pent up emotions to reduce the risk of future stress related illnesses (Kerner & Fitzpatrick, 2007).

Whilst results of written emotional disclosure have generally reported positive outcomes, a key limitation to such studies has been the difficulty in producing consistent results. Methodological differences between studies in addition to individual differences between participants may account for some of the differences in effectiveness of experimental emotional disclosure. For example, a study which utilized arthritic patients found that experimental disclosure was more effective in reducing disease activity for those who were given instructions specifically designed to promote cognitive change and insight compared to those who were given more general instructions (Broderick et al., 2004).

Furthermore, a study of college students illustrated that optimists significantly reduced illness related doctor's visits after experimental disclosure, where as

pessimists showed no change (Cameron & Nicholls, 1998). Undergraduate students also differ to other samples because they are motivated by course credit, are generally young and healthy, have high education level, and competent verbal and written skills. These attributes can interfere with producing accurate results and generalisability of findings.

Similarly, medical populations may benefit from emotional disclosure more so than other populations given the illness stressors they encounter that are resistant to changes initiated by the individual, thereby engaging in emotion-focused coping strategies produce more positive outcomes for such populations. Again, whilst results for such populations have been mixed, with weaker effects than found in healthy young undergraduate samples (Frisna, Borod, & Lepore, 2004) the generalisabilty of results is limited.

This illustrates how participant characteristics can impact on study results and the usefulness of experimental emotional disclosure. These results reiterate the importance of developing a variety of emotion regulation interventions and viewing them in the context of a transactional framework of coping to account for individual, population, characteristics of the stressor, and timing idiosyncrasies in the coping process. It is also important to structure research methodology to accommodate for such transactional frameworks, to accurately assess and investigate such interventions.

Due to contrasting results across written emotional disclosure studies, several meta-analyses have been employed in order to investigate the effectiveness of the intervention. Smyth's (1998) meta-analysis of 13 experimental disclosure studies

reported an overall effect size of $r = .23$. Similarly, Frisina, Borod, and Lepore's (2004) meta-analysis of nine studies reported an effect size of $r = .10$.

More recently, Frattaroli (2006) conducted a meta-analysis of 146 randomized studies of experimental disclosure with results further supporting previous meta-analysis outcomes reporting an average effect size of $r = .07$. The meta-analysis conducted by Frattaroli (2006) also provided guidance of the overall effectiveness, conditions, and moderators, of written emotional disclosure. Given that Frattaroli (2006) utilized a random effects approach, there can be confidence in the true existence of these effects even for similar studies that were not included in the analysis, and those studies that may be conducted in future. Frattaroli (2006) examined the following outcomes of written emotional disclosure, psychological health (e.g., depression, anxiety), physiological functioning (e.g., immune parameters, heart rate), reported health (e.g., doctor's visits, self-reported physical symptoms), health behaviours (e.g., medication adherence, exercise), general functioning (e.g., work outcomes, relationship outcomes), and subjective impact of the intervention (e.g., ratings of the study's enjoyment, perceived effectiveness of disclosure).

In summary of Frattaroli's analysis, a range of moderators of experimental disclosure were identified which produce larger effect sizes. Regarding populations, it was found that when studies only included participants with physical health problems ($r = .09$), included only participants with a history of trauma or stressors ($r = .04$), had more male participants ($r = .08$), had fewer participants (average number of participants per study was 78, $r = -.10$), and did not draw from a college student sample (college student samples had overall effect size of $r = -.009$), had larger effect

sizes. For community member studies there was an effect size ranging from $r = .09$ (Crow, 2000) to $r = .37$ (Bodor, 2002).

When participants disclosed at home or in a private setting ($r = .14$), for three or more sessions ($r = .10$), of one week apart ($r = -.03$), and of which lasted at least 15 minutes each time ($r = .14$), there were also larger effect sizes. It was also shown that instructions influenced effect sizes, whereby when participants were instructed to write about more recent events ($r = .06$), of undisclosed topics ($r = .01$), were given directed questions or specific examples of what to disclose ($r = .13$), gave participants instructions regarding whether they should switch topics ($r = .07$), and did not collect products of disclosure ($r = .05$), effect sizes were larger. Larger effect sizes were also reported when participants were paid ($\underline{r} = .02$), and had follow up periods of less than one month ($r = .13$).

Conversely, Frattaroli (2006) identified several variables that were not significantly related to effect size. These included; psychological health selection criteria, participant age, participant ethnicity, participant education level, warning participants in advance that they might disclose traumatic events, valence of disclosure topic, focus of disclosure instructions, time reference of disclosure instructions, and mode of disclosure (e.g., hand writing or typing).

It was also reported that written emotional disclosure did not affect health behaviours (e.g., exercise and eating habits) and that, among medical patients, emotional disclosure writing was more helpful for physical health outcomes (e.g., immune function) than for psychological health outcomes (e.g., depression). The above moderators and non-significant moderators are important to consider when

interpreting study results and the efficacy of such interventions as written emotional disclosure.

Frattaroli (2006) also investigated the underlying theories of written emotional disclosure. When investigating the inhibition theory that asserts that emotional disclosure works due to the cathartic release of pent up emotions, there was minimal support. However, Frattaroli (2006) demonstrated that the disclosure of recent events, not historical events, was positively related to effect size. The inhibition theory also predicts that people who inhibit feelings, due to such variables as demographics (e.g., males, age, ethnicity such as Asian, and education), and personality variables (e.g., neuroticism, alexithymia, optimism, and emotional inhibition) would also benefit greatly, and that overall, positive outcomes would involve reductions in stress.

This was not substantiated in Frattaroli's (2006) meta-analysis. This finding may be attributed to the limited variation across studies with respect to ethnicity, thereby making it difficult to find significant effects. Likewise for emotionally inhibited personalities, and males, there was too few evidence to draw any solid conclusions. There was no support however, for a significant reduction in self-reported stress or objective measures of stress responses. Similarly, Frattaroli's (2006) meta-analysis did not support the cognitive processing theory of emotional disclosure.

Mixed results were reported in the meta-analysis (Frattaroli, 2006) for the social integration theory that asserts that emotional disclosure increases peoples functioning in their social world, resulting in improvements in well-being. For example, participants in the treatment group were not significantly more likely to discuss the study or their event after the intervention, but they were significantly more likely to

improve their social relationships (e.g., stop holding a grudge; become more socially active by attending a club).

For the exposure theory, if repeated exposure is the underlying mechanism by which disclosure is effective, the dosage of the treatment (the number and length of sessions) should be an important predictor of effect size. Support for this model has been ambivalent, with some studies finding that disclosure does reduce intrusive and avoidant thoughts about the event (e.g., Klein & Boals, 2001) whilst other studies failed to report such a reduction (e.g., De Moor et al., 2002; Lepore, 1997). Frattaroli's (2006) meta-analysis demonstrated sound support for this theory. Results reported that studies with a minimum of three sessions and studies with sessions of 15-minutes or more, were more effective compared to studies with less disclosure time and duration.

If self-regulation is the mechanism by which written emotional disclosure works, then it would be expected that; direct measures of self-regulation should improve after disclosure; mood related problems such as symptoms of depression should decrease after disclosure; and, because the act of observing oneself express and control one's emotions does not need to be limited to negative emotion, writing about the positive should be just as good as writing about negative events or experiences.

Frattaroli's (2006) study reported some support for the self-regulation theory and these predictions. Whilst the average effect for the category of self-regulation was not significant in either random or a fixed effects model, the average effect for reducing symptoms of depression was significant. Additionally, there were no significant differences between studies that instructed participants to disclose negative events and those that instructed participants to disclose positive events.

Aside from issues stemming from theoretical mechanisms for emotional disclosure writing, another key limitation of writing interventions is that in order to be effective, participants require a high level of advanced writing ability and a capacity for written expression (Bray et al., 2003), thereby excluding several populations from accessing this resource, such as adults with poor literacy levels and a limited education level (Carpenter, 2001). Conversely, those with professional writing experience, or who are very skilled at writing, may also be disadvantaged as they may be more focused on producing a well-written product than expressing emotions (Schmidt, et al., 2002).

A further limitation of written emotional disclosure is that writing about emotions can serve as a hindrance for people with deficits in emotional awareness and understanding (a condition termed alexithymia). Alexithymia typically refers to individuals with the following characteristics; diminished fantasy, a tendency to describe at length details of external reality (e.g., physical ailments) without referring to their inner emotional impact, and difficulties in verbally expressing their emotions (Nemiah & Sifneos, 1970).

Nemiah and Sifneos (1970) assert that the underlying issue in alexithymia has been characterized as a deficit in the symbolization of emotion, or in the processing and regulation of emotion (Taylor, Bagby, & Parker, 1997). Lumley, Tojek, and Macklem's (2002) overview of several studies in this area suggests that alexithymia interferes with the benefits of emotional expression through writing (e.g., Lumley, Naoum, & Kelley, 2001), although some contradictory findings exist (e.g., Paez, Velasco, & Gonzalez, 1999; Baikie, 2008).

Studies of people who report unresolved stressors and trauma have shown significant long-term well-being benefits of written emotional disclosure (Sloan & Marx, 2004; Sloan, Marx, & Epstein, 2005). A key limitation however, has been the findings from several studies of trauma populations that emotional disclosure writing increases negative affect directly following the disclosure (e.g., anger, fear, fatigue, Greenberg et al., 1996) and that the effects of written emotional disclosure writing are not always positive (e.g., Pennebaker, 1997; Gillis et al., 2006). Studies investigating writing about a traumatic experience have reported increases in physical symptoms such as coughing, upset stomach, headaches, and the reduction of the rate of remission from depressive symptoms (Batten et al., 2002).

There have been several propositions for why these poor outcomes have resulted from written emotional disclosure studies. Chan & Horneffer (2006) propose that participants experience an immediate peak of distress from re-encountering the content of their past experience, and only later, experience the benefits of having constructed meaning from their trauma or stress in their memories. Indeed, Honos-Webb et al., (2000) report that writing about upsetting experiences might re-traumatize some participants.

These findings alongside others that have demonstrated that emotional disclosure can have adverse effects on emotional well-being (e.g., Earnhardt et al., 2002; Gallagher & MacLachlan, 2002). This is a key issue in the use of emotional disclosure writing as previously discussed, the presence of negative affect and the inability to regulate it can result in the employment maladaptive coping strategies, and increase the likelihood of poor outcomes. Therefore, it is essential to investigate other

emotional disclosure methods that might offer alternatives to the limitations of emotional disclosure writing.

CHAPTER 5

Emotional Disclosure Drawing

Whilst emotional disclosure writing can be an effective emotion regulation strategy, there may be situations where alternative strategies may be more beneficial, or offer different effects, such as emotional disclosure drawing. It is proposed that emotional disclosure drawing may serve as an emotion regulation strategy in several ways. First, emotional disclosure drawing may serve as a medium for individuals to increase awareness and understanding of their emotional experience. For example, if an individual were asked to draw their emotion, it would require the reflecting upon, and identifying their emotional state, thereby increasing emotional awareness. Lumley et al., (2005) assert that emotional awareness is a fundamental process that facilitates subsequent steps in emotion regulation. Thereby, interventions that simply increase emotional awareness are crucial in the overall emotion regulation process.

Second, emotional disclosure drawing could serve as a task that modulates the intensity of negative emotions. For example, if an individual was asked to draw their emotion, it would require the physical, mental, and emotional expression of that emotional state, this expression could have consequential effects of modulation.

Overall, emotional disclosure drawing could provide an alternative as an emotion regulation strategy to the linguistic medium of emotional disclosure writing.

Whilst there is vast body of research exploring the effectiveness of emotional disclosure writing, less research exists regarding drawing. Historically, drawing has often been categorized under the generic term of ‘art therapy’, alongside other visual mediums such as painting, sculpture, and collage. A recent review of 17 studies provides

some promising results for the effectiveness of art therapy in relation to general outcomes such as reducing psychological symptoms (Reynolds, Nabors, & Quinlan, 2000).

For example, Bell and Robbins (2007) examined the effect of producing art on mood and stress levels. Participants ($N = 50$) were randomly assigned to either create an art piece or to review and sort a series of art prints. Results demonstrated significantly greater reductions in negative mood and anxiety in the art-making group, compared with the art viewing control group. Bell and Robbins (2007) assert that the simple act of creating art pieces can produce dramatic reductions in negative mood, thereby providing promising results for other emotional disclosure mediums to elicit similar emotion regulation outcomes as emotional disclosure writing.

However, it is important to note that such studies are often methodologically problematic. As Reynolds, Nabors, and Quinlan (2000) review stated, the most common treatment outcome research design employed when investigating art therapy mediums has been the single group, pre-post design, whereby a group of individuals are evaluated before and after an art therapy intervention. Due to their design, such studies are exposed to many methodological confounds such as maturation, selection bias, regression to the mean, expectancy effects, and improvements due to external factors of the study (Bell & Robbins, 2007). Controlled randomized trials represent an alternative to single group designs whereby these validity threats are minimized.

Reynolds et al., (2000) noted that few such randomized trials have been performed in the art therapy field. Their review identified only five such studies. These studies provided only mixed support for the efficacy of art therapy modalities. Furthermore, art

therapy interventions were typically bundled together with other treatment modalities in these studies (e.g., verbalization). Therefore, any improvements in patient presentation or reports could not specifically be attributed to the art therapy component of treatment.

Whilst drawing is a commonly used method within art therapy, its use as an independent intervention to elicit emotional expression has received little empirical investigation (Chan & Horneffer, 2005). The notion that the specific intervention of drawing might offer an alternative approach to Pennebaker's use of writing was investigated by Pizzaro's (2004) study that compared writing and drawing. Participants (undergraduate students, *N*= 45) were randomly assigned to one of three conditions; writing about a stressful event, drawing a picture of a stressful event, or drawing a still life. Pizarro measured changes in general health, perceived stress, physical symptoms, and negative mood. Results reported that participants in the writing condition, but not the drawing conditions, showed a decrease in social dysfunction. There were no significant changes in other health indices.

Chan and Horneffer (2006) also explored the effects of drawing versus writing on psychological symptoms. Results indicated that participants in the writing group had a significantly greater decrease in their reported psychological symptoms compared to those participants in the drawing or control group. Furthermore, results found that writing had a more positive effect for participants who at the outset had greater levels of psychological distress.

Puig, Lee, Goodwin, and Sherrard, (2006) conducted a study that explored the efficacy of a complementary creative arts therapy intervention to enhance emotional expression, spirituality, and psychological well-being in newly diagnosed breast

cancer patients. Thirty-nine women with breast cancer were randomly assigned to an experimental group who received individual creative arts therapy interventions or a control group of delayed treatment. Results indicated that the intervention was not effective in enhancing the emotional approach coping style of emotional expression or level of spirituality of subjects in the given sample. However, participation in the creative arts therapy intervention enhanced psychological well-being by decreasing negative emotional states and enhancing positive affect for experimental group subjects.

Freudenheim (2005) investigated the effect of children's drawing on mood, verbalization of information, verbalization of feelings, and verbal organization. Using 99 first and second grader children, participants were asked to point to the face that best showed how they felt at the moment. Participants then viewed a film clip evoking fear, followed by a mood manipulation check, to indicate that an effective negative change in mood had occurred.

Participants were then randomly assigned to either draw anything they wanted for five-minutes or a sorting control group where they were asked to sort papers for five-minutes. After the task, participants again indicated their mood. Results supported the hypothesis that drawing would; help repair mood, facilitate verbalizations, and facilitate children's verbalization of affect. Some support was found for the hypothesis that drawing would facilitate more negative and overall affect in participant's personal experience responses. Some support was also found for the hypothesis that the drawing group would show higher total average organizational scores. This is one of

the few empirical studies demonstrating that a non-specific drawing intervention increases mood, verbalization, and affect in verbalization.

In summary, whilst many authors assert that the creative art experience facilitates emotional expression (e.g., Cox & Price, 1990; Landgarten, 1993; Waller, 1993) the use of drawing as an emotion regulation strategy has not been clearly researched to date. Only one study (e.g., Freudenheim, 2005) has begun to examine the relationship between drawing and its ability in changing emotional experience. A major limitation of this study was that it only investigated the effect of drawing on negative affect, excluding the impact of drawing on positive affect. Alongside methodological limitations, controlled studies researching the mechanisms and outcomes of visual creative emotional expression of emotion are rare (unlike expressive writing), thus present empirical restraints. Additionally, it is difficult to compare such studies to emotional disclosure studies given the nature of very different instructions for each disclosure method.

Whilst evidence for the use of emotional disclosure drawing as an emotion regulation strategy is primarily undetermined, there are several reasons to investigate its use as such. First, when defining emotion regulation strategies, they typically encompass two components, the component of identifying emotions or the emotional experience, and then the component of expressing and modulating this emotional experience as a means to facilitate coping. It is asserted that the medium of drawing can satisfy these criteria in a similar way to its predecessor, emotional disclosure writing.

A further reason to investigate emotional disclosure drawing as an emotion regulation strategy and its effect on outcomes relates to the frequency of its use in

therapy. Given the use of art in therapy, a common clinical practice, empirical studies examining its use as an intervention or adjunct to psychotherapy are essential (Freudenheim, 2005), and yet its effectiveness has not been well established. By exploring drawing as an emotional disclosure intervention strategy, it may serve as a beginning foundation for evidence on the therapeutic use of such non-verbal, expressive mediums.

Furthermore, the exploration of emotional disclosure drawing may be a useful tool for those who have suffered trauma, given that Appleton (2001) asserts that traumatic events are stored in memory as imagery. Using visual expressive mediums such as emotional disclosure drawing may also serve to lessen the pressure of clearly articulating distressing events into coherent sentences.

In consideration of these issues, further exploration of its use as an emotion regulation strategy, is warranted. Furthermore, emotional disclosure drawing may be an alternative to the limitations of written emotional disclosure. This next section outlines key limitations of emotional written disclosure and provides explanations as to how emotional disclosure drawing may assist in addressing such issues.

Comparing Emotional Disclosure Writing with Emotional Disclosure Drawing

A key limitation of writing interventions is that participants require a high level of writing ability and written expression (Bray et al., 2003), thereby excluding populations with literacy issues (Carpenter, 2001). Yet at the same time, limiting those who are very skilled at writing as they may be more focused on a well-written product (Schmidt et al., 2002).

The use of drawing as an emotional disclosure strategy may provide a useful alternative for such populations. For example, one can engage in drawing regardless of education level or literacy ability. Drawing may also remove the cognitive component of constructing a well-structured sentence to express emotions thereby allowing a pathway focused more so on expressing emotion (e.g., simply drawing a line that represents an emotion).

A further limitation of written emotional disclosure is that writing about emotions can serve as a hindrance for people with deficits in emotional awareness and understanding (alexithymia). For individuals with alexithymia, art therapy and drawing have been found to be useful tasks (Heiman et al., 1994; Hornyack & Baker, 1989) although it is not clearly understood why. For children, drawing is a natural expressive tool, as they often learn to draw before learning to write, they are often not adept at emotional language, and sometimes have speech and communication difficulties. Therefore, emotional disclosure drawing would be very accessible to such populations.

Both emotional disclosure writing and emotional disclosure drawing have been reported to impact on negative affect. For emotional disclosure writing, it has been shown to increase negative affect immediately following disclosure (e.g., Kloss & Lisman, 2002). Whilst the use of drawing has been shown to reduce negative affect (e.g., Puig et al., 2006), how both methods impact on positive affect has not been clearly researched to date. Furthermore, research investigating the comparative effects of each emotional disclosure method on positive and negative affect is vitally important given that the presence of positive and negative affect in the coping process

influences what coping strategies will be used, and ultimately effects the well-being outcomes of the coping approach. This is one of the most pressing reasons to investigate the comparative use of emotional disclosure writing and emotional disclosure drawing as an emotion regulation strategy.

In summary, there is a need to develop other emotional regulation disclosure techniques to emotional disclosure writing, such as emotional disclosure drawing, to cater for individual, population, and stressor characteristics which impact on the wider framework of emotion in the coping process. By investigating emotional disclosure drawing further, particularly in comparison to emotional disclosure writing, this would not only assist in establishing drawing as an emotion regulation intervention in its own right, but it would also provide comparative data of the two strategies, and potentially address limitations presented by emotional disclosure writing (e.g., method, practical limitations).

CHAPTER 6

Research Aims and Hypotheses

The key aim of the current study is to determine if emotional disclosure drawing produces similar emotion regulation and well-being outcomes as emotional disclosure writing. Furthermore, much of the research and reported outcomes on written emotional disclosure has been in the context of specific populations such as university students (e.g., Pennebaker et al., 1988), trauma populations (e.g., Sloan, Marx, & Epstein, 2005), and populations with medical conditions (e.g., Kelley et al., 1997). What has not been explored to any extent is the use of emotional disclosure mediums on community samples.

This is important to investigate because it enables the examination of both emotional disclosure writing and emotional disclosure drawing at a baseline level, producing results that are not confounded by characteristics of the population or type of stressor to such a great extent. This is crucial, as previously mentioned, the population characteristics (amongst other factors) greatly impact on both the type of coping strategy employed, and on subjective well-being outcomes. Furthermore, in reference to research conducted by Bodor (2002) and Crow (2000), larger effect sizes are to be expected, which assists in exploring the effects of emotional disclosure drawing on emotion regulation and coping.

According to past research, emotional disclosure writing effects well-being variables resulting in increased appreciation of life and improved interpersonal relationships (e.g., Ullrich & Lutendorf, 2002), decreased depressive symptoms (e.g., Lepore, 1997), increased physical functioning (e.g., Pennebaker et al., 1988;

Greenberg et al., 1996) and decreased stress towards physical symptoms (e.g., McKenna, 1997). It can be assumed that emotional disclosure drawing would also produce similar outcomes. This suggests examining the following research questions and hypotheses. Well-being measures will be measured using the Satisfaction with Life Scale (Diener et al., 1985) and OQ-45 (Lambert et al., 1996).

Research Question 1

What is the effect of emotional disclosure writing and emotional disclosure drawing on the well-being variables of satisfaction with life, social role, symptom distress, and interpersonal relations, in a community sample?

Hypotheses

- H1.1. There are significant differences between the emotional disclosure writing and emotional disclosure drawing group, compared to the placebo writing group, the placebo drawing group, and the control group on the six-month follow-up measure of satisfaction with life, as assessed by the Satisfaction of Life Scale.
- H1.2. There are significant differences between the emotional disclosure writing and emotional disclosure drawing group, compared to the placebo writing group, the placebo drawing group, and the control group on the six-month follow-up measure of social role as assessed by the OQ-45 scale.
- H1.3. There are significant differences between the emotional disclosure writing group and the emotional disclosure drawing group, compared to the placebo writing group, the placebo drawing group, and the control group on the six-month follow-up measure of symptom distress, as assessed by the OQ-45 scale.

- H1.4. There are significant differences between the emotional disclosure writing group and the emotional disclosure drawing group, compared to the placebo writing group, the placebo drawing group, and the control group on the six-month follow-up measure of interpersonal relations, as assessed by the OQ-45 scale.

Given that emotion regulation is an imperative part of the coping process, it is important to include measures of changes to coping, following emotional disclosure techniques. Several studies have demonstrated that emotional disclosure writing can promote effective coping (e.g., Lumley & Provenzano, 2003; Pennebaker, Colder, & Sharp, 1990) therefore, it would be expected that both emotional disclosure groups would show increases in adaptive coping and decreases in maladaptive coping. Coping will be measured using the COPE scale (Carver et al., 1989).

Research Question 2

What is the effect of emotional disclosure writing and emotional disclosure drawing on ways of coping (e.g., adaptive emotion-focused coping, maladaptive emotion-focused coping, and problem-focused coping) in a community sample?

Hypotheses

- H2.1. There are significant differences between the emotional disclosure writing and drawing groups, compared to the placebo writing, placebo drawing, and the control groups on the six-month follow-up measure of adaptive emotion-focused coping, as assessed by the COPE subscales: seeking social support for emotional reasons, positive reinterpretation and growth, acceptance, turning to religion, and humour.

- H2.2. There are significant differences between the emotional disclosure writing and drawing groups, compared to the placebo writing and placebo drawing and the control groups on the six-month follow-up measure of coping as assessed by the COPE maladaptive emotion-focused coping subscales: denial, mental disengagement, behavioural disengagement, focusing on and venting emotions, and substance use.
- H2.3. There are significant differences between the emotional disclosure writing and drawing groups, compared to the placebo writing and drawing and the control groups on the six-month follow-up measure of problem-focused coping as assessed by the COPE subscales: active coping, planning, restraint, suppression of competing activities, and seeking support for instrumental reasons.

Emotional approach coping involves actively processing and expressing emotion (Stanton et al., 1994; Stanton et al., 2000b). Given that processing and expressing emotion is a key component of emotion regulation, it would be expected that participants in the emotional disclosure groups would demonstrate increases in their emotional approach coping ratings as measured by the Emotional Approach Coping scale (Stanton et al., 2000b).

Hypotheses

H2.4. There are significant differences between the emotional disclosure writing and the emotional disclosure drawing group compared to the placebo writing, placebo drawing, and control groups on the 6-month follow-up measure of emotional approach coping, as assessed by the EAC scale.

Previous studies have reported positive results regarding affect regulation (e.g., Pennebaker, 1990; Smyth & Pennebaker, 1999; Klein & Boals, 2001). However, as

previous research is inconclusive with regard to the emotional processes during emotional disclosure treatments, there are no directed hypotheses for this. It is assumed that emotional disclosure drawing and emotional disclosure writing work in a similar manner due to their focus on emotional processing and expression, therefore producing similar results.

Several studies have reported that emotional disclosure writing increases negative affect immediately following disclosure (e.g., Greenberg et al., 1996; Kloss & Lisman, 2002; Chan & Horneffer, 2006), therefore it can also be expected in the current study that emotional disclosure will result in increased negative affect. Changes in subjective affect will be measured by the PANAS-X (Watson & Clark, 1991) prior too, and immediately after emotional disclosure at each disclosure exercise over the four-week treatment period. This time series over four weeks allows examining changes in emotional experience and emotional regulation.

Research Question 3

What are the effects emotional disclosure writing and emotional disclosure drawing on perceived emotion regulation in a community sample? This research question, in contrast to others, will examine the process of emotion regulation while it occurs (i.e., during the emotional disclosure exercises).

Hypotheses

- Hypothesis 3.1: There are significant differences between the emotional disclosure groups and the control as well as placebo disclosure groups on the four weekly assessments of positive affect as measured by the PANAS-X subscales of

positive affect, basic positive emotion scale, joviality, self-assurance, and attentiveness taken prior and after the emotional disclosure exercise.

- Hypothesis 3.2: There are significant differences between the emotional disclosure groups and the control as well as placebo disclosure groups on the four weekly assessments of negative affect as measured by the PANAS-X subscales of negative affect, basic negative emotions scale, fear, hostility, guilt, and sadness taken prior and after the emotional disclosure exercise.
- Hypothesis 3.3: There are significant differences between the emotional disclosure groups and the control as well as placebo disclosure groups on the four weekly assessments of other affects as measured by the PANAS-X subscales of other affective states, shyness, fatigue, serenity, and surprise taken prior and after the emotional disclosure exercise.

A summary of the hypotheses are presented in Table 1.

Table 1 *Overview of the Hypotheses Tested in the Present Study*

	Hypotheses
1.1	There are significant differences between the emotional disclosure writing and emotional disclosure drawing group, compared to the placebo writing group, the placebo drawing group, and the control group on the six-month follow-up measure of satisfaction with life, as assessed by the Satisfaction of Life Scale.
1.2	There are significant differences between the emotional disclosure writing and emotional disclosure drawing group, compared to the placebo writing group, the placebo drawing group, and the control group on the six-month follow-up measure of social role as assessed by the OQ-45 scale.
1.3	There are significant differences between the emotional disclosure writing group and the emotional disclosure drawing group, compared to the placebo writing group, the placebo drawing group, and the control group on the six-month follow-up measure of symptom distress, as assessed by the OQ-45 scale.
1.4	There are significant differences between the emotional disclosure writing group and the emotional disclosure drawing group, compared to the placebo writing group, the placebo drawing group, and the control group on the six-month follow-up measure of interpersonal relations, as assessed by the OQ-45 scale.
2.1	There are significant differences between the emotional disclosure writing and drawing groups, compared to the placebo writing, placebo drawing, and the control groups on the six-month follow-up measure of adaptive emotion-focused coping, as assessed by the COPE subscales: seeking social support for emotional reasons, positive reinterpretation and growth, acceptance, turning to religion, and humor.
2.2	There are significant differences between the emotional disclosure writing and drawing groups, compared to the placebo writing and placebo drawing and the control groups on the six-month follow-up measure of maladaptive emotion-focused coping as assessed by the COPE subscales: denial, mental disengagement, behavioural disengagement, focusing on and venting emotions, and substance use.
2.3	There are significant differences between the emotional disclosure writing and drawing groups, compared to the placebo writing and drawing and the control groups on the six-month follow-up measure of problem-focused coping as assessed by the COPE subscales: active coping, planning, restraint, suppression of competing activities, and seeking support for instrumental reasons.
2.4	There are significant differences between the emotional disclosure writing and the emotional disclosure drawing group compared to the placebo writing, placebo drawing, and control groups on the six-month follow-up measure of emotional approach coping, as assessed by the EAC scale.
3.1	There are significant differences between the emotional disclosure groups and the control as well as placebo disclosure groups on the four weekly assessments of positive affect as measured by the PANAS-X subscales of positive affect, basic positive emotion scale, joviality, self-assurance, and attentiveness, taken prior and after the emotional disclosure exercise.
3.2	There are significant differences between the emotional disclosure groups and the control as well as placebo disclosure groups on the four weekly assessments of negative affect as measured by the PANAS-X subscales of negative affect, basic negative emotions scale, fear, hostility, guilt, and sadness, taken prior and after the disclosure exercise.
3.3	There are significant differences between the emotional disclosure groups and the control as well as placebo disclosure groups on the four weekly assessments of other affects as measured by the PANAS-X subscales of other affective states, shyness, fatigue, serenity, and surprise, taken prior and after the disclosure exercise.

CHAPTER 7

Method

Research Design

This study followed a randomized controlled trial design with a 2 (Time) x 5 (Group) design. Participants (N = 115) were randomly assigned to one of five conditions: 1) emotional disclosure writing (n = 29), 2) emotional disclosure drawing (n = 22), 3) placebo disclosure writing (n = 25), 4) placebo disclosure drawing (n = 26), and 5) control group (n = 30).

A power analysis was calculated based on a small effect size of 0.15, which was extracted from the findings of Frattaroli (2006) meta-analysis examining the effects of written disclosure on several health outcomes, such as satisfaction with life, coping strategies, distress (re: health), anxiety, and depression. Using the effect size of r = 0.15 for repeated measures analyses of variance with five groups, it was determined that 115 participants would be needed in order to yield a power of 0.8 and an alpha error of .05.

The initial design (wave one) resulted in high attrition rate (63%), therefore a rolling recruitment strategy was utilised (wave two) such that the participant goal was reached. The survey package was also reduced in size for wave two, excluding non-essential surveys, to reduce the risk of high attrition rates which might have reflected high workload demand on participants. Wave two also incorporated an additional two groups for the study, placebo disclosure drawing, and placebo disclosure writing to test for demand characteristics. Group allocation was based on random order as discussed later in the procedure section.

Participants

Exclusion Criteria

There were two exclusion criteria 1) participants under the age of 18 years were excluded for ethical reasons, and 2) participants should not have a substance use disorder. One participant (n = 1) was excluded from the study due to being under 18 years of age.

Recruitment

Wave One

Participants were recruited using three methods, 1) the undergraduate psychology research pool via A4 information sheets posted at recruitment boards in the School of Psychology and through the University of Tasmania (UTAS research recruitment website (Appendix A). Participants were given credit for their participation as part of their course requirements (n = 1). 2) Tasmanian Arts, Health and Well-being Network recruitment email (Appendix B) (n = 11). This network had a respondent list of approximately 200 at the time of 2005. 3) The Sunday Tasmanian newspaper research article (Appendix C). The Sunday Tasmanian newspaper has a circulation rate of over 60, 000, and a readership of 131, 000. The article was posted on page seven of the newspaper. This method had the highest response rate (n = 55).

A total of 67 responded to the initial three types of recruitment methods. Of the 67 individuals, 41 withdrew prior to completing the study. One individual was excluded due to being under 18 years of age. An attrition rate of 63% resulted in a total of 25 individuals participating in wave one. The 25 participants who completed the total participation requirements were randomly allocated to experimental groups as

follows: control group (n = 10), emotional disclosure writing group (n = 7), and the emotional disclosure drawing group (n = 8).

Wave Two

Participants were recruited via displaying A4 information sheets, (similar to wave one: Appendix D), in the location of Brisbane and the Gold Coast (Queensland) in community centres, cafes, community public notice boards in suburbs, shopping centres, and city spaces. A total of 75 posters were distributed in Brisbane (n = 60) and Gold Coast (n = 15). 124 participants responded to the recruitment information sheets. Nine participants withdrew from participation prior to completing the study producing an initial attrition rate of 7.26**%** for wave two. A further 25 withdrew from the study resulting of 90 participants completing participation requirements in the recruitment process for wave two. This resulted in an attrition rate for wave two of 20.16%. This is consistent with Frattaroli's (2006) meta-analysis, which reported that the attrition rate for 75% of the 146 studies was 20% or less. Demographic data for each group (e.g., sample location and experimental group) is represented in table 2 and 3. A flow chart of participant retention rate and data used for the research is presented in figure 3.

Table 2

Demographic Information for Participants from the Two Locations

Demographic Variable	Geographic Location	
	Tasmania	Queensland
N	25	91
Gender		
Male	6	13
Female	19	77
Age (years)		
Range	31-85	19-85
M	53.53	38.2
SD	13.43	13.72
Relationship Status		
Single	5	37
Married	15	27
Defacto	1	19
Divorced	4	7
Offspring		
Number of participants with children	18	26
Mean number of children	1.9	.65
Education Level		
High School	17	21
TAFE	7	32
University	1	62
Employment		
Full time	7	47
Part time	9	13
Casual	0	24
Unemployed	9	6

Note. *SD* = standard deviation, *N* = number of participants, *M* = mean.

Ta

T

Table 3

Demographic Information for each of the Five Experimental Conditions: Emotional Disclosure Writing, Emotional Disclosure Drawing, Placebo Disclosure Writing, Placebo Disclosure Drawing, and Control

Demographic Variable	Experimental Condition				
	Control	Emotional Disclosure Writing	Emotional Disclosure Drawing	Placebo Disclosure Writing	Placebo Disclosure Drawing
N	30	29	22	18	16
Gender					
Male	10	1	1	4	3
Female	20	28	21	14	13
Age (years)					
Range	24-85	19-83	22-58	20-73	21-52
M	46.63	41.72	37.63	40.44	37.25
SD	14.35	14.25	10.85	15.63	12.21
Relationship Status					
Single	5	13	9	7	8
Married	14	11	6	7	4
De-facto	7	2	3	4	4
Divorced	4	3	4	0	0
Offspring					
Number of participants with children	17	10	9	6	4
Mean number of children	1.43	1.03	.95	.66	.43
Education Level					
High School	5	6	2	5	3
TAFE	12	6	7	3	4
University	13	17	13	10	9
Employment					
Full time	13	13	10	8	10
Part time	7	7	3	1	4
Casual	4	5	5	8	2
Unemployed	6	4	4	1	0

Note. *SD* = standard deviation, *N* = number of participants, *M*= mean.

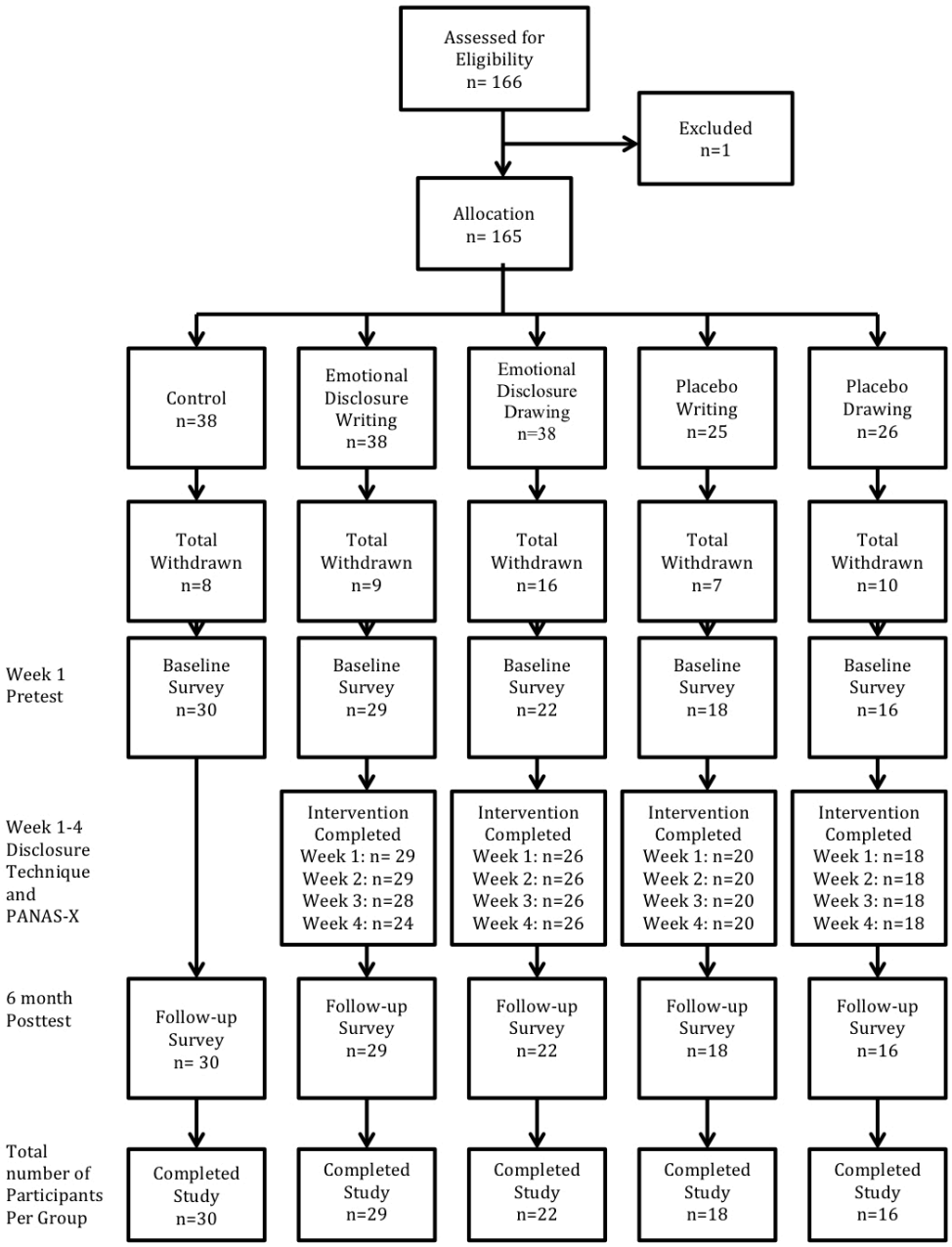

Figure 3. Flowchart of participants through the study.

Procedure

After responding to recruitment methods and contacting the researcher, participants were posted an information sheet (Appendix E), outlining the aims of the investigation, requirements, ethical considerations, method of the study, and consent form (Appendix F). Participants were informed that responses were anonymous and confidential, and that all participation was voluntary.

Participants were then randomly assigned to one of five conditions, emotional disclosure drawing, emotional disclosure writing, placebo writing, placebo drawing, and control group. The random assignment in wave one occurred through the researcher tossing a six-sided dice whereby outcome one and two would assign that participant to group one, outcomes three and four to group two and outcomes five and six to group three. The dice would be thrown again to determine which group constitutes as the control group, emotional disclosure writing, emotional disclosure drawing, placebo writing, and placebo drawing group.

For wave two, due changes in the design whereby a rolling recruitment method was used, the researcher placed each survey package (depending on the experimental condition), in an unmarked white A4 envelope and blindly addressed survey packages to participants. Participants completed all research requirements at their place of residence.

Disclosure Groups (Emotional disclosure writing and drawing, placebo writing and drawing)

Participants initially completed a pre intervention survey package (Appendix G) before undertaking the disclosure tasks in their place of residence. Participants

were then instructed to complete the PANAS-X survey to rate their current affective experience. Participants then completed the disclosure task (30-60 minutes) before immediately completing a second PANAS-X (Appendix H-K). This procedure was repeated once per week, for four consecutive weeks. Six-months after the initial pre intervention survey, participants were instructed to complete the follow-up survey package (Appendix L & G).

Control Group

The control group completed the initial intervention survey package. Follow-up occurred 6-months later to detect changes in well-being outcomes. Participants were then asked to return the completed surveys and emotional disclosure outputs to the researcher in a return postage paid envelope within seven-days after completion (Appendix I & J). For wave two, participants were reminded via text messaging and email (with consent) to return surveys. Failing that, a time was organised for the researcher to collect the survey from a nominated location at a specified time. This was to reduce the likelihood of high attrition rates evident in wave one. Data was then prepared for analysis. All statistical analyses were conducted using the statistics software SPSS 20.0 for Windows (SPSS, 2011).

Materials

Emotional Disclosure Instructions

Instructions for the emotional disclosure drawing activity were broad in their direction in order to encourage participants to engage in the activity at their own skill level without having to be focused on technical drawing skills. Similarly, for the emotional disclosure writing group, instructions

were kept equally brief and broad to allow free range of what, and how, participants wrote about their current emotional state. Frattaroli's (2006) meta-analysis reported that 50% of written disclosure studies use broad instructions (e.g., Booth et al., 1997, p. 24; Barry & Singer, 2001, p. 291). Similarly, broad instructions were used in Bell and Robbin's (2007) study on art making and mood.

When using placebo writing groups, many studies have used the instruction of "write about your time management" (e.g., Radcliffe et al., 2010; O'Neill & Smyth, 2001). Given that time management cannot be drawn, this study instructed both the placebo drawing and placebo writing group to either write or draw about the contents of their wardrobe. This task and content was designed to replicate the frequently used time management instruction by remaining descriptive, both through drawing and writing, and relatively unemotional in content.

This instruction also enabled the placebo group to be matched with the emotional disclosure groups in terms of time and effort required to complete the task. This allows for a very conservative estimate of the effects, as the placebo groups spent equal time and effort on their task, and as such, experimentor or nonspecific effects can be accounted for (see Jacobson & Baucom, 1977; Lohr, De Maio, & McGlynn, 2003).

Participants were instructed to do the following, prior to their specific disclosure instructions "Please complete the first survey (pre PANAS-X) then immediately after completing the survey, spend 30-60 minutes (insert

specific disclosure instruction as per Table 4). Immediately following this, please complete the final survey (post PANAS-X)".

Table 4

Instructions for each Disclosure Group

Group	Weeks	Instructions
Emotional Disclosure Writing	1-4	"Write about how you are currently feeling"
Emotional Disclosure Drawing	1-4	"Draw how you are currently feeling"
Placebo Writing	1-4	"Write about the contents of your wardrobe"
Placebo Drawing	1-4	"Draw the contents of your wardrobe"

Measures

Baseline and Follow-up

Satisfaction With Life Scale

The Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) is a 5-item, self-report, global measure of life satisfaction. Accordingly, life satisfaction is one single factor in the more general construct of subjective well-being, which has been identified as having three key components; positive affective appraisal, negative affective appraisal, and life satisfaction. Life satisfaction is distinguished from affective appraisal in that it is more cognitively than emotionally driven (Diener et al., 1985). Several emotional disclosure studies have examined the effect of disclosure on life satisfaction (e.g., Schutte et al., 2012). The SWLS was included in the present study to measure changes in global well-being.

Regarding psychometric properties of the SWLS, initial and subsequent studies have examined the internal consistency of the SWLS and alpha coefficients have repeatedly exceeded .80 (e.g., Pavot & Diener, 1993). The test-retest reliabilities have been generally satisfactory (e.g. Pavot & Diener, 1993), however, when the time span between test and re-test is long and situational influences affect responses, scores have been reported as lower that ideal. For example, Diener et al's., (1985) initial validation study reported two-month test-retest correlation coefficients equal to .82 for 76 students re-tested from their original sample. Alfonso and Allison (c.f., Pavot & Diener, 1993) reported a test-retest correlation coefficient of .89 for subjects retested after two weeks.

Several studies have investigated the construct validity of the SWLS (e.g., Vitaliano et al., 1991; Pavot & Diener, 1993). Of particular relevance is the finding that the test-retest stability has been found to decline as time between testing increases. This suggests that the SWLS is sensitive to changes that occur with life and not just a direct effect of stable personality traits.

When administered with measures of positive and negative affect appraisal, the SWLS typically correlates with scales measuring both constructs even though the two are unrelated (Corrigan, 2000). The values of these correlations range from .26 to .47, indicating that the SWLS relates to an area of subjective well-being separate from either positive or negative affectivity (Corrigan 2000).

Outcomes Questionnaire (OQ-45)

The Outcome questionnaire-45 (OQ-45; Lambert et al., 1996) is a 45-item self-report instrument that requires participants to rate their responses on a 5-point Likert

scale ranging from “never” to “always”. The OQ-45 is designed to access common symptoms across a wide range of adult mental disorders and syndromes, including stress related illness and DSM-IV Axis V codes. In addition, the OQ-45 can be used as a baseline screening instrument and can measure participant changes during treatments.

The OQ-45 specifically measures well-being variables consistent with emotional disclosure writing studies, for example symptom distress (e.g., Lepore, 1997), interpersonal functioning (e.g., Ullrich & Lutendorf, 2002), and social role (e.g., Pennebaker & Graybeal, 2001; Heffner, 2002) in the one survey, thereby reducing participant workload. The scale has also been used in previous disclosure studies (e.g., Graf, Gaudiano, & Geller, 2008), therefore the OQ-45 was deemed appropriate for use in this study.

Symptom distress (SD) measures such psychological symptoms as depression, anxiety, and substance abuse. The subscale includes items such as “I feel no interest in things”, “I feel fearful”, and “After heavy drinking, I need a drink the next morning to get going”.

Interpersonal relations (IR) subscale measures satisfaction with, as well as problems in interpersonal relations, such as friction, conflict, isolation, inadequacy, and withdrawal in interpersonal relationships. The subscale includes items such as “I get along well with others”, “I feel lonely”, and “I have trouble getting along with friends and close acquaintances”.

Finally, the social role (SR) subscale assesses dissatisfaction, conflict, distress, and inadequacy in tasks relating to the participants employment, family roles, and

leisure life. SR includes items such as “I feel stressed at work/study/housework/hobbies”, “I find work/study/hobbies/home duties satisfying”, and “I have too many disagreements at work/school/hobbies”.

The scale is self-administered and requires no further instructions beyond those written on the response sheet. Under typical circumstances, the test can be completed within five-minutes. Both test-retest and internal consistency reliability have been assessed using various sub samples of undergraduate students. Both the total score of the OQ-45 and the symptom distress subscale have demonstrated excellent internal consistency (above .90).

The COPE Scale

The COPE (Carver et al., 1989) scale provides a comprehensive measure of coping strategies, enabling the examination of how specific disclosure methods impact on specific coping approaches (e.g., problem-focused coping, adaptive emotion-focused coping, and maladaptive emotion-focused coping; see Baker & Berenbaum, 2007). The COPE scale is a 60-item inventory, which consists of 15 subscales: active coping; planning; suppression of competing activities; restraint coping; seeking social support for instrumental reasons; seeking social support for emotional reasons; positive reinterpretation and growth; acceptance; turning to religion; focus on and venting of emotions; denial; behavioural disengagement; mental disengagement; humor, and substance use. Coping items are rated using a 4-point scale (1 = not at all; 4 = a lot). Higher scores indicate a greater amount of self-reported coping during the past two weeks.

The four-item active coping subscale from the COPE inventory includes items such as “I took additional action to try to get rid of the problem” and “I concentrate my efforts on doing something about it” (α = .86). The four-item planning subscale from the COPE inventory includes items such as “I tried to come up with a strategy about what to do” and “I make a plan of action” (α = .92). The four-item subscale of suppression of competing activities includes items such as “I put aside other activities in order to concentrate on this” and “I keep myself from getting distracted by other thoughts or activities”. The restraint coping subscale (inclusive of four-items) has items such as “I force myself to wait for the right time to do something” and “I make sure not to make matters worse by acting too soon”.

The four-item subscale of ‘seeking social support for instrumental reasons’, includes items such as; “I asked people who have had similar experiences what they did” (α = .81), and “I talk to someone who could do something concrete about the problem”. The four-item seeking social support for emotional reasons subscale from the COPE inventory includes items such as “I talked to someone about how I feel” and “I get sympathy and understanding from someone” (α = .86). The four-item subscale titled positive interpretation and growth includes such items as “I look for something good in what is happening” and “I try to grow as a person as a result of the experience”. The acceptance subscale (four-items) includes items such as “I learn to live with it” and “I accept the reality of the fact that it happened”.

The turning to religion four-item subscale includes items such as “I seek God’s help” and “I try to find comfort in my religion”. The subscale focus on and venting of emotions (four-items) includes items such as “I get upset and let my emotions out”

and “I feel a lot of emotional distress and I find myself expressing those feelings a lot”. The four-item subscale denial includes items such as “I refuse to believe that it has happened” and “I pretend that it hasn’t really happened”.

The four-item subscale behavioural disengagement includes “I give up the attempt to get what I want” and “I reduce the amount of effort I’m putting into reducing the problem” as items. The mental disengagement, four-item subscale includes “I daydream about things other than this” and I go to movies or watch TV, to think about it less” as items. Finally, the substance use is a one-item subscale “I drink alcohol or take drugs, in order to think about it less”. Due to the scales comprehensive inclusion of different coping approaches (e.g., problem-focused coping, emotion-focused coping adaptive strategies, and emotion-focused coping maladaptive strategies) and sound psychometric properties (see Carver et al., 1989), it was deemed appropriate for use in this study.

Emotional Approach Coping Scale

In addition to the COPE scale, the Emotional Approach Coping Scale was included. This is due to developments in the coping literature after the COPE scale was developed whereby emotional approach coping was identified as an adaptive coping strategy. At the time of this study, the Emotional Approach Coping Scale was the only psychometric scale to measure emotional approach coping.

The Emotional Approach Coping (EAC; Stanton, Kirk, Cameron, & Danoff-Burg, 2000b) survey is an eight-item self-report survey on a Likert scale from one (“I usually don’t do this at all”) to four (“I usually do this a lot”). The EAC scale focuses on evaluating emotional processing and expression in the context of coping. The scale

is consistent with the conceptualization of coping through emotional processing as active attempts to acknowledge, explore meanings, and come to an understanding of one's emotions, items measuring emotional processing include: "I acknowledge my emotions," "I realize that my feelings are valid and important," "I take time to figure out what I am really feeling," and "I delve into my feelings to get a thorough understanding of them."

Reflecting active and/or nonverbal attempts to communicate or symbolize one's emotional experience, items measuring coping through emotional expression include: "I feel free to express my emotions," "I take time to express my emotions," "I allow myself to express my emotions," and "I let my feelings come out freely." Both dispositional (i.e., "indicate what you generally do, feel, and think when you experience stressful situations") and situational (i.e., current specific stressor) instructional sets have been developed.

In both dispositional and situational scale versions, the scales demonstrate high internal consistency reliability (α = .72 to .94) and four-week test-retest reliability (r = .72 to .78) (Stanton et al., 2000b). The scales are uncorrelated with social desirability (Stanton et al., 2000b, Study 1 and 3). Although the two scales are moderately (e.g., r = .45, Stanton et al., 2000b, Study 3) to substantially inter-correlated (r = .75; Stanton et al., 2000a), they demonstrate differential relations with other variables. For example, the scale assessing coping through emotional expression is more highly correlated with self-report measures of dispositional and family expressiveness than is emotional processing (Stanton et al., 2000b, Study 1 and 3).

Four-week Disclosure Measures

Positive and Negative Affect Scale (PANAS-X)

To measure the effects of disclosure on affect over the four weeks, prior to and after the disclosure exercises, the Positive and Negative Affect Scale – Expanded Form (PANAS- X; Watson & Clark, 1991) was used. The PANAS-X is a 60-item scale that measures several specific affects and can be completed in ten minutes. Respondents rate each item on a 5-point Likert scale (1 = 'very slightly or not at all', to 5 = 'extremely'). Responses are then summed to obtain a score, which can range from 60 to 300.

The PANAS-X has been used in many emotional disclosure studies (e.g., Zautra et al., 1995; Norman et al., 2004; Gillis et al., 2006; Baker & Berenbaum, 2007; Barclay & Skarlicki, 2009) due its ability to measure changes to subjective affect prior to and immediately following emotional disclosure. The ability of the PANAS-X to measure immediate subjective affect also increases the validity of the data (Mauss & Robinson, 2009). As the key aim is to determine if emotional disclosure drawing regulates emotion, the PANAS-X was deemed appropriate for use in this study.

The specific affect scales of the PANAS-X are; Negative: Fear, Sadness, Guilt, Hostility, Shyness, Fatigue, and Surprise Scales. Positive: Joviality, Self-Assurance, Attentiveness, and Serenity Scales (Table 5). For both intra and inter-individual analyses, Positive Affect (PA) and Negative Affect (NA), present as the dominant dimensions of emotional experience (Watson & Clark, 1994). The two factors are also appearing consistently across time frames, response formats, languages, and cultures (Almagor & Ben-Porath, 1989; Tellegen, 1988; Watson, 1988; Watson, Clark, & Tellegen, 1985; Watson & Tellegen, 1985; Zevon & Tellegen, 1982).

Positive and negative affect account for the majority of the variance in self-rated affect however, further emotional states can also be identified. Thereby, the PANAS-X is compiled from the model proposed by Watson & Tellegen (1985) which incorporates a hierarchical taxonomic scheme of the two broad higher order dimensions which are inclusive of several correlated, though distinguishable, affect states (Watson & Clark, 1994). The model incorporates a higher level that reflects the valence of the two mood descriptors (i.e., whether they represent negative or positive states), and a lower level that reflects their specific content (i.e., the distinctive qualities of the individual affects)**.** Factor analysis of the PANAS-X is consistent with key theoretical models of emotion (Ekman, 1971; Izard, 1972).

Table 5

Item Composition for the PANAS-X Scale (Watson & Clark, 1991)

General Dimension Scales	Affect
Negative Affect (10)	Afraid, scared, nervous, jittery, hostile, guilty, ashamed, upset distressed
Positive Affect (10)	Active, alert, attentive, determined, enthusiastic, excited, inspired interested, proud, strong
Basic Negative Emotion Scales	
Fear (6)	Afraid, scared, frightened, nervous, jittery, shaky
Hostility (6)	Angry, hostile, irritable, scornful, disgusted, loathing
Guilt (6)	Guilty, ashamed, blameworthy, angry at self, disgusted at self dissatisfied with self
Sadness (5)	Sad, blue, downhearted, alone, lonely
Basic Positive Emotion Scales	
Joviality (8)	Happy, joyful, delighted, cheerful, excited, enthusiastic, lively energetic
Self-Assurance (6)	Proud, strong, confident, bold, daring, fearless
Attentiveness (4)	Alert, attentive, concentrating, determined
Other Affective States	
Shyness (4)	Shy, bashful, sheepish, timid
Fatigue (4)	Sleepy, tired, sluggish, drowsy
Serenity (3)	Calm, relaxed, at ease
Surprise (3)	Amazed, surprised, astonished

Note. The number of terms comprising each scale is shown in parentheses.

Several studies have demonstrated that the PANAS-X is a useful and sensitive psychometric instrument to measure intra-individual affect fluctuation (e.g., Watson, 1988; Clark & Watson, 1988; 1990; Watson & Tellegan, 1985). For immediate affect rating, the PANAS-X, reliability (Cronbach's Alpha) ranges from .72 to .93, demonstrating good internal consistency (Watson & Clark, 1994). When comparing the

PANAS-X to the Profile of Mood States (POMS; McNair, Lorr, & Droppleman, 1971), the instrument demonstrates convergent correlations ranging from .85 to .91. The PANAS-X reports a discriminant correlation mean of .45, being significantly lower than the POMS .60 (Watson & Clark, 1994).

The test-retest reliability of the PANAS-X has been reported with coefficients ranging from .51 (for serenity) to .71 (for negative affect) (Watson & Clark, 1994). Thus, alongside established stability of the scale over time, significant convergent and discriminant validity, high correlations with corresponding measures of aggregated state affect, the PANAS-X is also reportedly to be strongly and systematically related to measures of personality and emotionality (Watson & Clark, 1994). In summary, these findings support the use of the PANAS-X as a valid psychometric test to assess individual differences in affect and emotional experience.

CHAPTER 8

Results

1.0 Sample

1. 1. Sample Descriptives

The final sample on which analyses were done consisted of $N = 115$ participants. Participants were a community sample and recruited in Tasmania and Queensland, Australia. Table 3 in the method section provides an overview of socio-demographic characteristics for each experimental condition.

1.2. Dropout Analysis

A dropout analysis was conducted to compare baseline examine whether participants dropped out of the study as a function of group allocation. A Chi² was conducted comparing group allocation participants not completing the study ($n = 50$) with participants completing the study ($n = 115$). No significant differences between participants remaining in the study and participants dropping out between were found ($\chi^2 = .22$, $df = 4$; *n.s.*).

2.0 Preliminary Analyses

2.1 Randomisation Check

To check whether randomization was successful, a one-way ANOVA was conducted for continuous variables at baseline, and Chi² tests for nominal variables. The five groups were compared on baseline socio-demographic and well-being variables (Table 6, Appendix M). Chi² tests for nominal variables suggested that there were significant differences for gender ($\chi^2 = 12.51$, $df = 4$; $p < .05$), with less men than expected in the control group (5 instead of 10). The ANOVA comparing continuous

variables revealed significant differences for the COPE subscale of mental disengagement ($F(4,110) = 2.82$, $p < .05$), the OQ-45 total score ($F(4, 110) = 3.13$, $p < .05$), and subscale of symptom distress ($F(4, 110) = 3.2$, $p < .05$). Participants in the control group reported lower scores for OQ-45 total and symptom distress compared to other groups. In addition, the placebo disclosure drawing group reported higher scores on the OQ-45 symptom distress subscale than the other groups.

2.2 Manipulation Check

As all analyses were conducted using a repeated measures ANOVA, the manipulation check can be conducted by looking at the main effect of time for each outcome variable.

2.3 Missing Values

There are no strict guidelines on how much missing data in a sample of a given size is still tolerable. Tabachnick and Fidell (2001) suggest that 5% of missing data points can be regarded as a small amount and almost any procedure for handling the missing values can be applied. For participants who took part in in both baseline, disclosure, and follow-up assessments, there were 47 missing answers in the overall amount of 54, 370 answers in this study. This is regarded as low (Table 6 and 7). For the imputation of the 47 missing values, the missing value was replaced by the mean value.

Table 7

Missing Value Analysis for Well-being Scales

	Pre		Post	
Scale	*N*	%	*N*	%
Satisfaction With Life Scale	5	0.87	0	.0
Outcome Questionnaire-45	10	0.19	5	0.09
COPE	6	0.08	0	.0
Emotional Approach Coping Scale	0	.0	0	.0

Note. *N* = number of missing values

Table 8

Missing Value Analysis for PANAS-X Scale at each of the Four Weeks, Prior to and Immediately after Disclosure

	Week 1		Week 2		Week 3		Week 4	
PANAS-X	*N*	%	*N*	%	*N*	%	*N*	%
Pre Disclosure	1	0.01	0	.0	0	.0	1	0.01
Post Disclosure	1	0.01	0	.0	2	0.02	16	0.23

Note. *N* = number of missing values

Descriptive Findings

3.0 Descriptive Results for Outcomes

3.1 Satisfaction With Life

The descriptive statistics for the satisfaction with life scale are shown in table 9. Skewness for satisfaction of life ranged between -.73 (baseline) and -.69 (the six-month follow-up), kurtosis of the baseline satisfaction with life was .06 and for the six-month follow-up it was -.12. The significant Kolmogorov-Smirnov-Test for

normality suggests that SWL at baseline and six-month follow-up is not normally distributed (Figure 4).

Table 9

Means and Standard Deviations for Satisfaction with Life Scale

	Pre		Post	
Scale	*M*	*SD*	*M*	*SD*
Satisfaction With Life	24.32	6.95	24.86	7.06

Note. *M* = mean, *SD* = standard deviation, *N* = 115

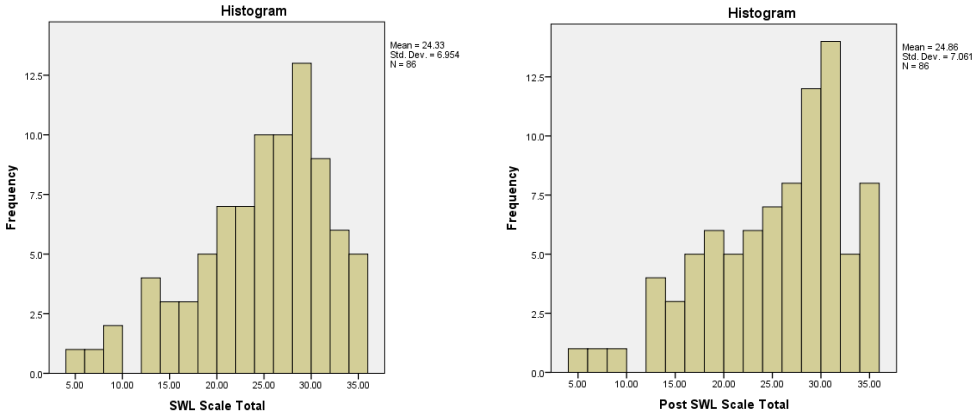

Figure 4. Distribution of satisfaction with life scale across participants (*N* = 115).

Note. Post refers to measurement six-months following the disclosure exercise.

3.2 Outcome Questionnaire-45 (OQ-45)

The descriptive statistics for the outcome questionnaire (OQ-45) scale are shown in table 10. Skewness for the OQ-45 ranged between .41 (baseline) and .53 (six-month follow-up), kurtosis of the baseline OQ-45 was -.16 and for the six-month follow-up it was .17. Kolmogorov-Smirnov-Test for normality suggests a normal distribution for baseline OQ-45, however the post OQ-45 is not normally distributed (Figure 5).

Table 10

Means and Standard Deviations for the OQ-45 Scale

	Pre		Post	
Scale	*M*	*SD*	*M*	*SD*
OQ-45	11.24	16.78	116.93	16.88

Note. *M* = mean, *SD* = standard deviation, *N* = 115

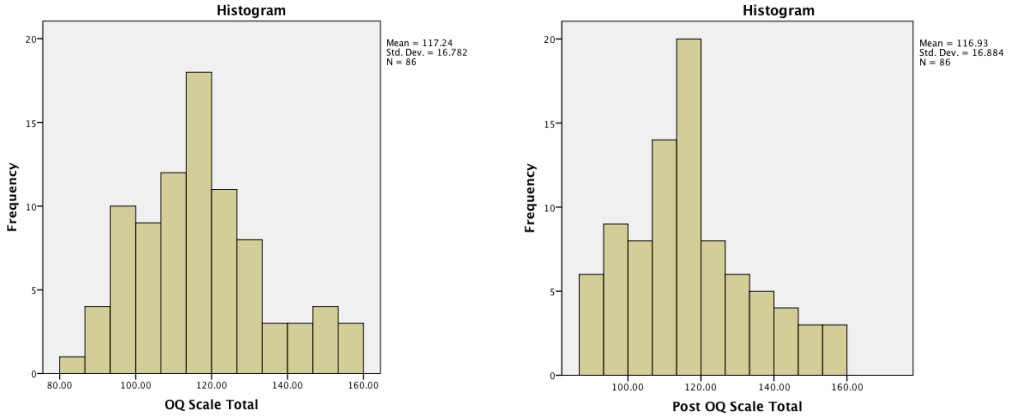

Figure 5. Distribution of OQ-45 scale across participants (*N* = 115). Note: Post refers to measurement six-months following the disclosure exercise

3.4 OQ-45 Interpersonal Relations subscale

The descriptive statistics for the OQ-45 interpersonal relations scale are shown in table 11. Skewness for interpersonal relations ranged between .66 (baseline) and .93 (six-month follow-up), kurtosis of the baseline OQ-45 IR was .71 and for the six-month follow-up it was 1.75. Kolmogorov-Smirnov-Test for normality suggests that at baseline and six-month follow-up, interpersonal relations is not normally distributed (Figure 6).

Table 11

Means and Standard Deviations for the OQ-45 Subscale of Interpersonal Relations

	Pre		Post	
OQ-45 Subscale	*M*	*SD*	*M*	*SD*
Interpersonal relations	30.9	3.53	31.11	3.73

Note. *M* = mean, *SD* = standard deviation, *N* = 115

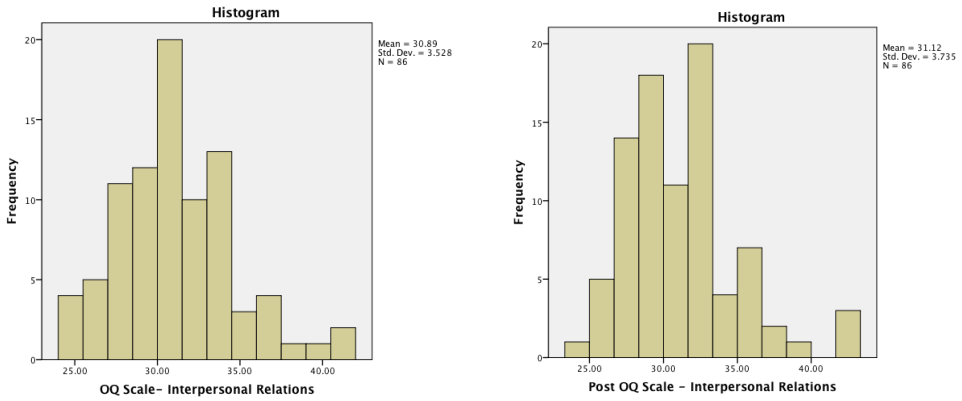

Figure 6. Distribution of OQ-45 interpersonal relations subscale across participants (*N* = 115). Note. Post refers to measurement six-months following the disclosure exercise

3.5 OQ-45 Social Role subscale

The descriptive statistics for the OQ-45 social role scale are shown in table 12. Skewness for social role ranged between .10 (baseline) and .21 (six-month follow-up), kurtosis of the baseline OQ-45 SR was -.14 and for the six-month follow-up it was .52. Kolmogorov-Smirnov-Test for normality suggests that for baseline and six-month follow-up, social role is not normally distributed (Figure 7).

Table 12

Means and Standard Deviations for OQ-45 Subscale of Social Role

	Pre		Post	
OQ-45 Subscale	*M*	*SD*	*M*	*SD*
Social role	24.31	3.28	24.33	3.24

Note. *M* = mean, *SD* = standard deviation, *N* = 115

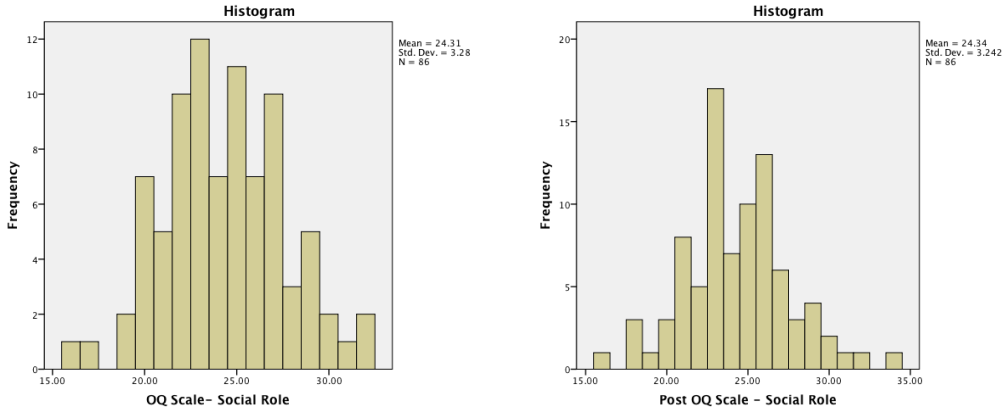

Figure 7. Distribution of OQ-45 social role subscale across participants (*N* = 115).

Note. Post refers to measurement six-months following the disclosure exercise

3.6 OQ-45 Symptom Distress subscale

The descriptive statistics for the OQ-45 symptom distress scale are shown in table 13. Skewness for symptom distress ranged between .81 (baseline) and .91 (six-month follow-up), kurtosis of the baseline OQ-45 SD was .29 and for the six-month follow-up it was .36. Kolmogorov-Smirnov-Test for normality suggests that at baseline and six-month follow-up, symptom distress is not normally distributed (Figure 8).

Table 13

Means and Standard Deviations for the OQ-45 Subscale of Symptom Distress

	Pre		Post	
OQ-45 Subscale	*M*	*SD*	*M*	*SD*
Symptom distress	61.93	13.77	61.47	14.15

Note. *M* = mean, *SD* = standard deviation, *N* = 115

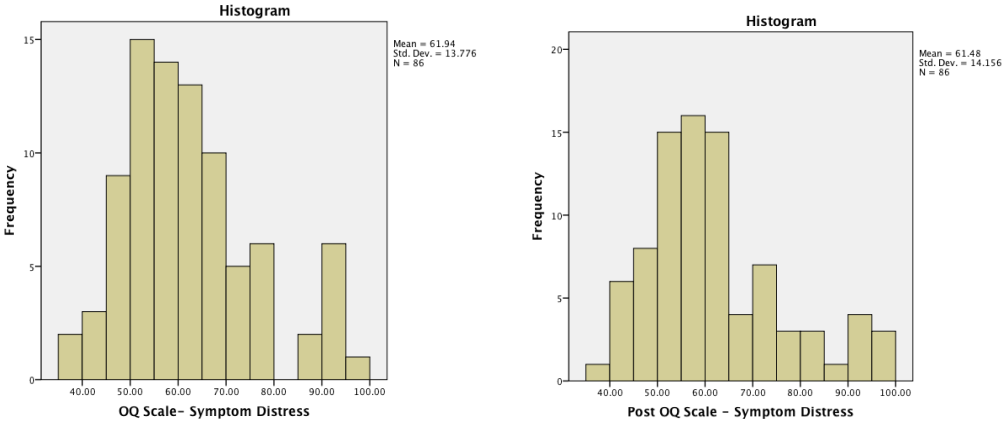

Figure 8. Distribution of OQ-45 symptom distress subscale across participants (*N* = 115). Note. Post refers to measurement six-months following the disclosure exercise.

3.7 COPE Positive Reinterpretation and Growth subscale

The descriptive statistics for the COPE scale of positive reinterpretation and growth are shown in table 14. Skewness for the COPE scale of positive reinterpretation and growth ranged between -.37 (baseline) and -.66 (six-month follow-up), kurtosis of the baseline was -.35 and for the six-month follow-up it was .02. Kolmogorov-Smirnov-Test for normality suggests that it is normally distributed for baseline COPE positive reinterpretation and growth, but not normally distributed for six-month follow-up (Figure 9).

Table 14

Means and Standard Deviations for the Positive Reinterpretation and Growth COPE Subscale

	Pre		Post	
COPE Subscale	*M*	*SD*	*M*	*SD*
Positive reinterpretation and growth	11.77	2.65	12.5	2.71

Note. *M* = mean, *SD* = standard deviation, *N* = 115

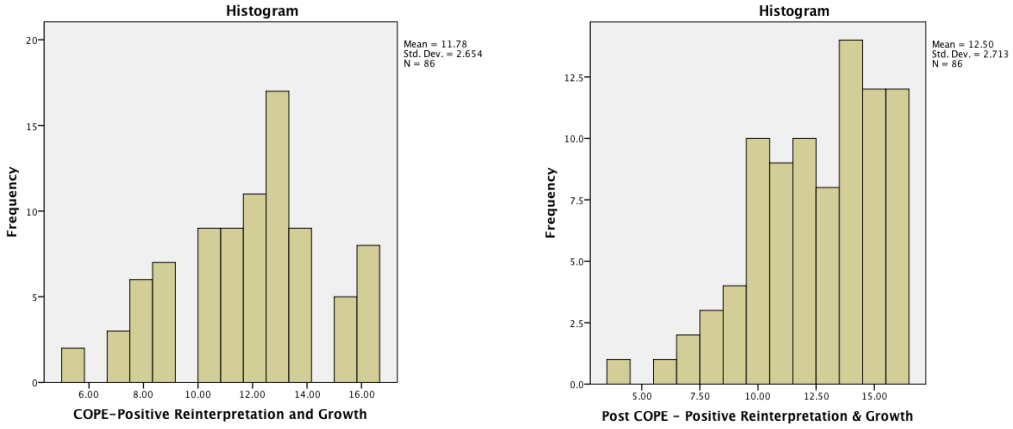

Figure 9. Distribution of the COPE subscale positive reinterpretation and growth across participants (*N* = 115). Note. Post refers to measurement six-months following the disclosure exercise

3.8 COPE Religious Coping subscale

The descriptive statistics for the COPE religious coping scale are shown in table 15. Skewness for religious coping ranged between 1.84 (baseline) and -.06 (six-month follow-up), kurtosis of the religious coping scale baseline was 2.5 and for the six-month follow-up it was -.61. Kolmogorov-Smirnov-Test for normality suggests that the scale is not normally distributed at baseline and six-month follow-up (Figure 10).

Table 15

Means and Standard Deviations for the Religious Coping COPE Subscale

	Pre		Post	
COPE Subscale	*M*	*SD*	*M*	*SD*
Religious coping	5.75	3.01	9.0	3.24

Note. *M* = mean, *SD* = standard deviation, *N* = 115

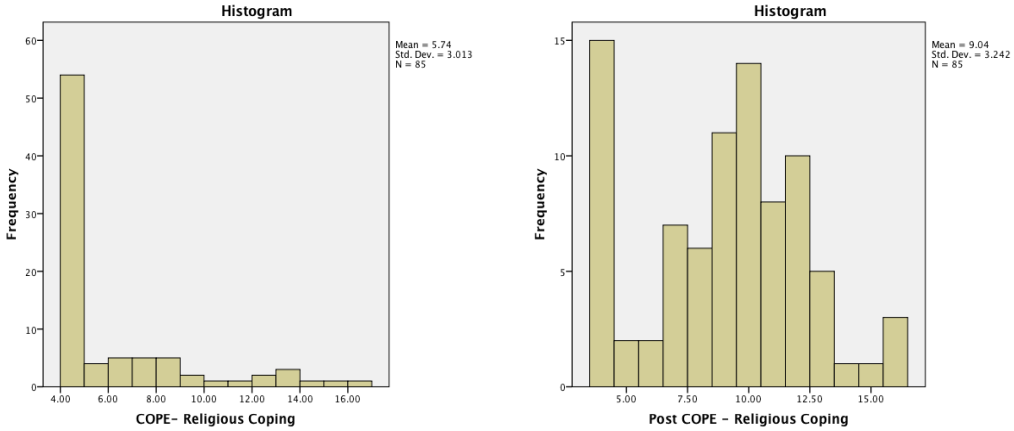

Figure 10. Distribution of the COPE subscale religious coping across participants (*N* = 115). Note. Post refers to measurement six-months following the disclosure exercise.

3.9 COPE Seeking Social Support for Emotional Reasons subscale

The descriptive statistics for the COPE scale of seeking support for emotional reasons are shown in table 16. Skewness for the scale ranged between -.03 (baseline) and .03 (six-month follow-up), kurtosis of the baseline scale was -.56 and for the six-month follow-up it was -.89. Kolmogorov-Smirnov-Test for normality suggests that the scale of seeking social support for emotional reasons is not normally distributed for baseline and six-month follow-up (Figure 11).

Table 16

Means and Standard Deviations for the Seeking Social Support for Emotional Reasons COPE Subscale

	Pre		Post	
COPE Subscale	*M*	*SD*	*M*	*SD*
Seeking support for emotional reasons	9.84	3.23	9.98	3.24

Note. *M* = mean, *SD* = standard deviation, *N* = 115

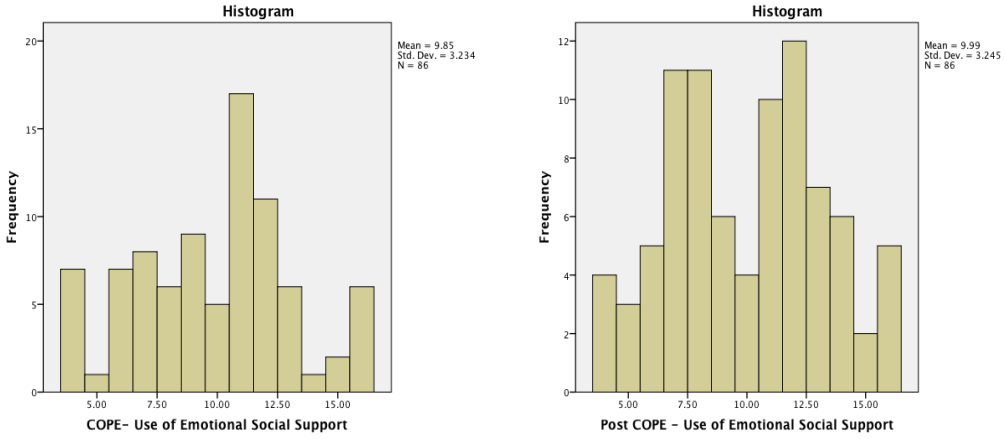

Figure 11. Distribution of the COPE subscale seeking social support for emotional reasons (*N* = 115). Note. Post refers to measurement six-months following the disclosure exercise.

3.10 COPE Acceptance subscale

The descriptive statistics for the COPE scale of acceptance are shown in table 17. Skewness for acceptance ranged between -.09 (baseline) and -.1 (six-month follow-up), kurtosis of the baseline acceptance scale was -.16 and for the six-month follow-up it was -.47. Kolmogorov-Smirnov-Test for normality suggests that the COPE scale of

acceptance is not normally distributed at baseline and six-month follow-up (Figure 12).

Table 17

Means and Standard Deviations for the Acceptance COPE Subscale

	Pre		Post	
COPE Subscale	*M*	*SD*	*M*	*SD*
Acceptance	10.7[illegible]	2.55	10.43	2.79

Note. *M* = mean, *SD* = standard deviation, *N* = 115

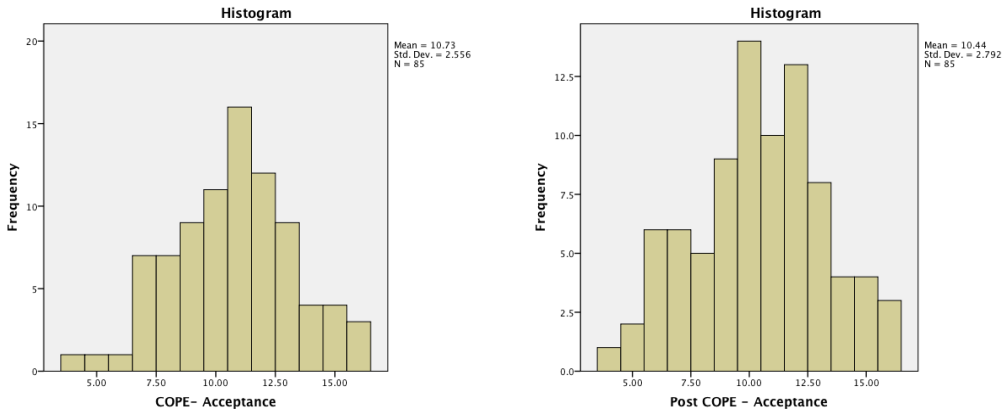

Figure 12. Distribution of the COPE subscale acceptance across participants (*N* = 115). Note. Post refers to measurement six-months following the disclosure exercise.

3.11 COPE Humour subscale

The descriptive statistics for the COPE humour scale are shown in table 18. Skewness for humour ranged between 1.84 (baseline) and -.06 (six-month follow-up), kurtosis of the humour scale baseline was 2.5 and for the six-month follow-up it was -.61. Kolmogorov-Smirnov-Test for normality suggests that the humour COPE scale is not normally distributed at baseline and six-month follow-up (Figure 13).

Table 18

Means and Standard Deviations for the Humour COPE Subscale

	Pre		Post	
COPE Subscale	*M*	*SD*	*M*	*SD*
Humour	7.54	3.13	7.81	3.51

Note. *M* = mean, *SD* = standard deviation, *N* = 115

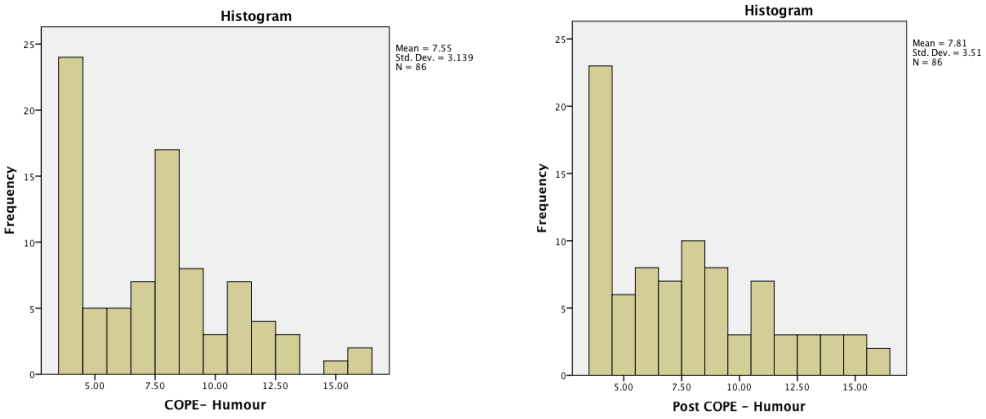

Figure 13. Distribution of the COPE subscale humour across participants (*N* = 115). Note. Post refers to measurement six-months following the disclosure exercise.

3.12 COPE Mental Disengagement subscale

The descriptive statistics for the COPE scale of mental disengagement are shown in table 19. Skewness for the scale ranged between -.09 (baseline) and .11 (six-month follow-up), kurtosis of the baseline scale was -.77 and for the six-month follow-up it was -.56. Kolmogorov-Smirnov-Test for normality suggests that baseline and six-month follow-up mental disengagement is not normally distributed (Figure 14).

Table 19

Means and Standard Deviations for the Mental Disengagement COPE Subscale

	Pre		Post	
COPE Subscale	*M*	*SD*	*M*	*SD*
Mental disengagement	10.34	2.85	10.17	3.01

Note. *M* = mean, *SD* = standard deviation, *N* = 115

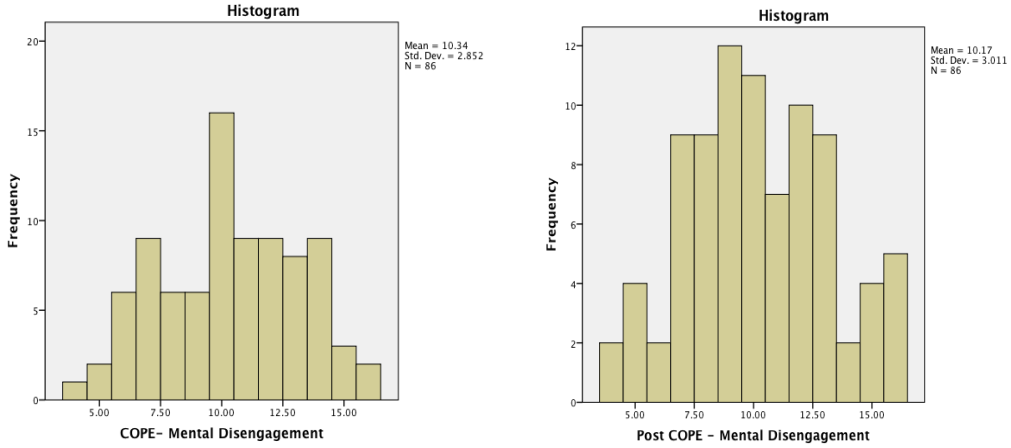

Figure 14. Distribution of the COPE subscale mental disengagement across participants (*N* = 115). Note. Post refers to measurement six-months following the disclosure exercise

3.13 COPE Substance Use subscale

The descriptive statistics for the COPE scale of substance use are shown in table 20. Skewness for substance use ranged between 1.12 (baseline) and 1.29 (six-month follow-up), kurtosis of the baseline was .08 and for the six-month follow-up it was .85. Kolmogorov-Smirnov-Test for normality suggests that the COPE scale of substance use is not normally distributed at baseline and six-month follow-up (Figure 15).

Table 20

Means and Standard Deviations for the Substance Use COPE Subscale

	Pre		Post	
COPE Subscale	*M*	*SD*	*M*	*SD*
Substance use	7.01	3.79	6.55	3.27

Note. *M* = mean, *SD* = standard deviation, *N* = 115

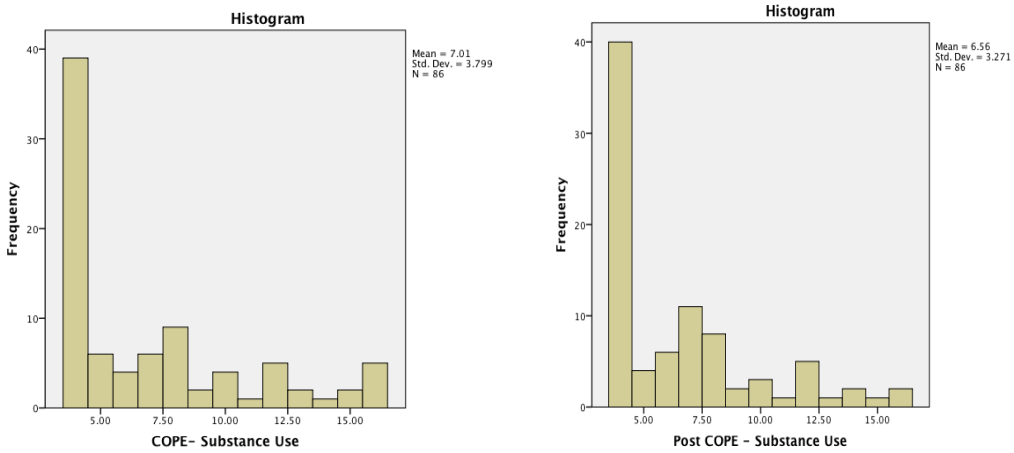

Figure 15. Distribution of the COPE subscale substance use across participants (*N* = 115). Note. Post refers to measurement six-months following the disclosure exercise.

3.14 COPE Focus on and Venting Emotions subscale

The descriptive statistics for the COPE scale of focusing on and venting emotions are shown in table 21. Skewness for the scale ranged between -.07 (baseline) and -.05 (six-month follow-up), kurtosis of the baseline scale was -.15 and for the six-month follow-up it was -.33. Kolmogorov-Smirnov-Test for normality suggests that baseline and six-month follow-up is not normally distributed (Figure 16).

Table 21

Means and Standard Deviations for the Focusing on and Venting Emotions COPE Subscale

	Pre		Post	
COPE Subscale	*M*	*SD*	*M*	*SD*
Focusing on and venting emotions	10.27	2.89	10.22	2.85

Note. *M* = mean, *SD* = standard deviation, *N* = 115

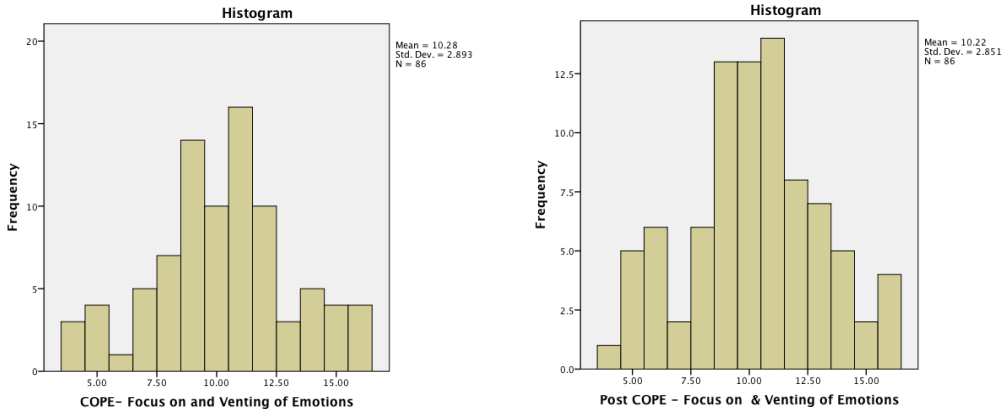

Figure 16. Distribution of the COPE subscale focusing on and venting emotions across participants (*N* = 115). Note. Post refers to measurement six-months following the disclosure exercise

3.15 COPE Denial subscale

The descriptive statistics for the COPE scale of denial are shown in table 22. Skewness for denial ranged between 1.3 (baseline) and 1.5 (six-month follow-up), kurtosis of the denial scale baseline was 1.1 and for the six-month follow-up it was 2.02. Kolmogorov-Smirnov-Test for normality suggests that the denial scale is not normally distributed for baseline and six-month follow-up (Figure 17).

Table 22

Means and Standard Deviations for the Denial COPE Subscale

	Pre		Post	
COPE Subscale	*M*	*SD*	*M*	*SD*
Denial	6.13	2.44	6.05	2.41

Note. *M* = mean, *SD* = standard deviation, *N* = 115

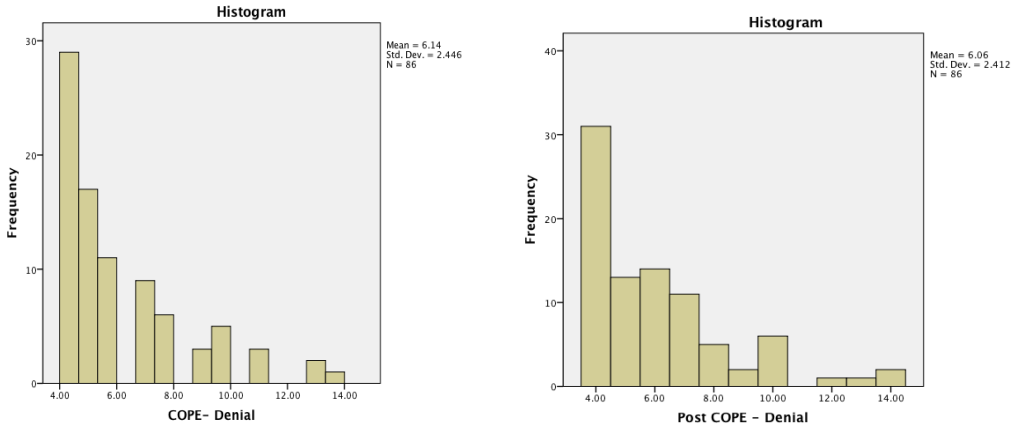

Figure 17. Distribution of the COPE subscale denial across participants (*N* = 115).

Note. Post refers to measurement six-months following the disclosure exercise.

3.16 COPE Behavioural Disengagement subscale

The descriptive statistics for the COPE behavioural disengagement scale are shown in table 23. Skewness for the scale ranged between 1.27 (baseline) and 1.6 (six-month follow-up), kurtosis of the baseline scale was 1.34 and for the six-month follow-up it was 2.27. Kolmogorov-Smirnov-Test for normality suggests that the behavioural disengagement scale is not normally distributed at baseline and six-month follow-up (Figure 18).

Table 23

Means and Standard Deviations for the Behavioural Disengagement COPE Subscale

	Pre		Post	
COPE Subscale	*M*	*SD*	*M*	*SD*
Behavioural disengagement	6.19	2.45	6.09	2.5

Note. *M* = mean, *SD* = standard deviation, *N* = 115

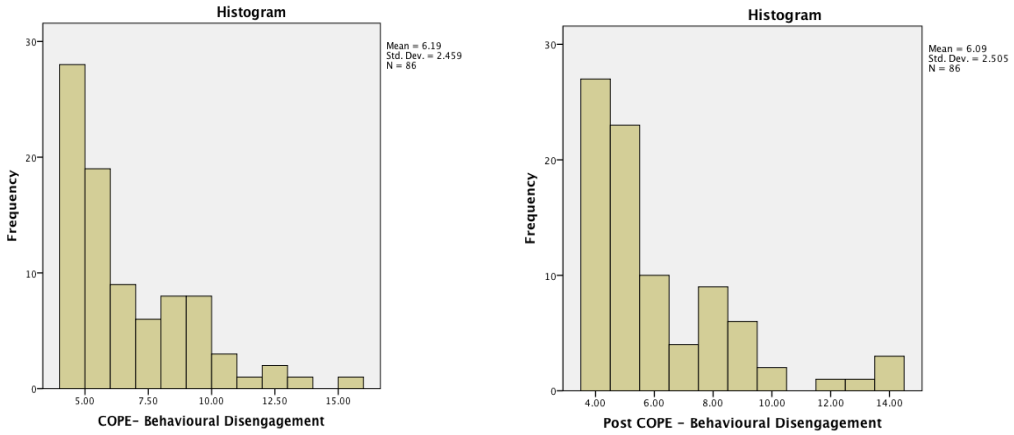

Figure 18. Distribution of the COPE subscale behavioural disengagement across participants (*N* = 115). Note. Post refers to measurement six-months following the disclosure exercise.

3.17 COPE Active Coping subscale

The descriptive statistics for the COPE scale of active coping are shown in table 24. Skewness for active coping ranged between .15 (baseline) and -.07 (six-month follow-up), kurtosis of the baseline active coping was -.83 and for the six-month follow-up it was -.97. Kolmogorov-Smirnov-Test for normality suggests that the scale of active coping is not normally distributed for baseline and six-month follow-up (Figure 19).

Table 24

Means and Standard Deviations for the Active Coping COPE Subscale

	Pre		Post	
COPE Subscale	*M*	*SD*	*M*	*SD*
Active coping	11.14	2.61	11.84	2.57

Note. *M* = mean, *SD* = standard deviation, *N* = 115

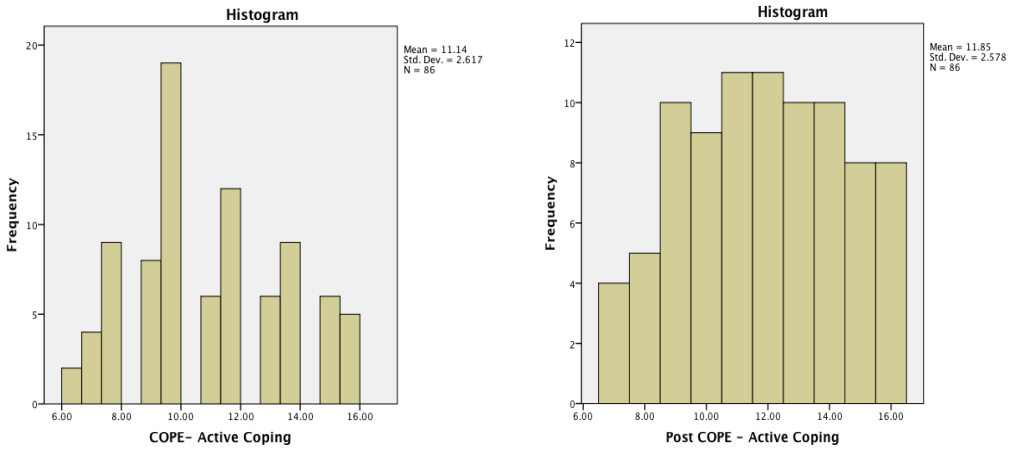

Figure 19. Distribution of the COPE subscale active coping across participants (*N* = 115). Note. Post refers to measurement six-months following the disclosure exercise.

3.18 COPE Restraint subscale

The descriptive statistics for the COPE scale of restraint are shown in table 25. Skewness for restraint ranged between -.49 (baseline) and .84 (six-month follow-up), kurtosis of the baseline was 1.21 and for the six-month follow-up it was -.58. Kolmogorov-Smirnov-Test for normality suggests that the restraint COPE scale was is not normally distributed at baseline and six-month follow-up (Figure 20).

Table 25

Means and Standard Deviations for the Restraint COPE Subscale

	Pre		Post	
COPE Subscale	*M*	*SD*	*M*	*SD*
Restraint	10.32	2.19	6.83	3.45

Note. *M* = mean, *SD* = standard deviation, *N* = 115

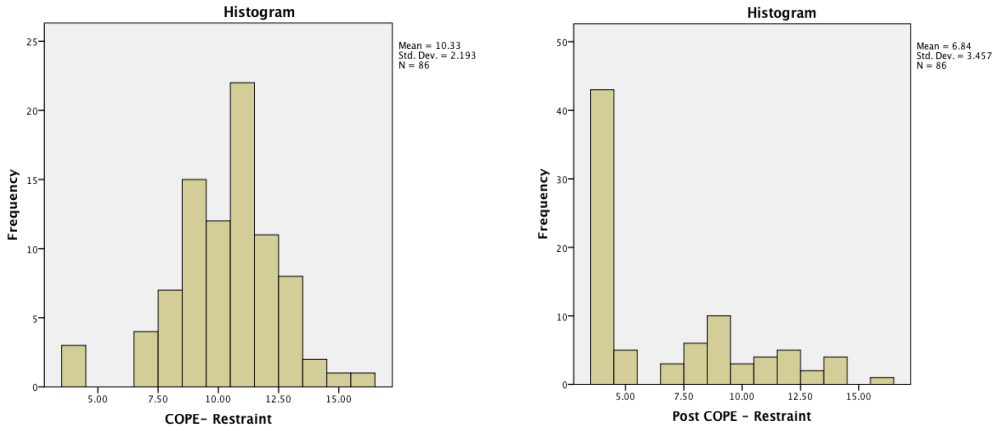

Figure 20. Distribution of the COPE subscale restraint across participants (*N* = 115). Note. Post refers to measurement six-months following the disclosure exercise.

3.19 COPE Planning subscale

The descriptive statistics for the COPE scale of planning are shown in table 26. Skewness for planning ranged between -.23 (baseline) and -.44 (six-month follow-up), kurtosis of the baseline planning scale was -.40 and for the six-month follow-up it was -.57. Kolmogorov-Smirnov-Test for normality suggests that the planning scale is not normally distributed at baseline and six-month follow-up (Figure 21).

Table 26

Me*ans and Standard Deviations for the Planning COPE Subscale*

	Pre		Post	
COPE Subscale	*M*	*SD*	*M*	*SD*
Planning	11.79	2.72	12.56	2.68

Note. *M* = mean, *SD* = standard deviation, *N* = 115

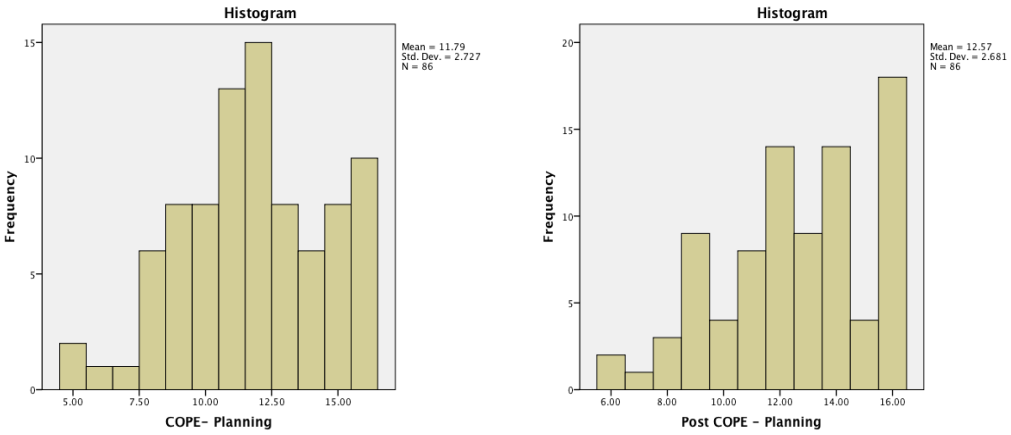

Figure 21. Distribution of the COPE subscale of planning across participants (*N* = 115). Note. Post refers to measurement six-months following the disclosure exercise.

3.20 COPE Seeking Social Support for Instrumental Reasons subscale

The descriptive statistics for the COPE scale of seeking social support for instrumental reasons are shown in table 27. Skewness for the scale ranged between -.18 (baseline) and -.31 (six-month follow-up), kurtosis for baseline was -.71 and for the six-month follow-up it was -.70. Kolmogorov-Smirnov-Test for normality suggests the seeking social support for instrumental reasons is not normally distributed for baseline and six-month follow-up (Figure 22).

Table 27

Means and Standard Deviations for the Seeking Social Support for Instrumental Reasons COPE Subscale

	Pre		Post	
COPE Subscale	*M*	*SD*	*M*	*SD*
Seeking social support for instrumental reasons	10.5	2.97	10.6	3.23

Note. *M* = mean, *SD* = standard deviation, *N* = 115

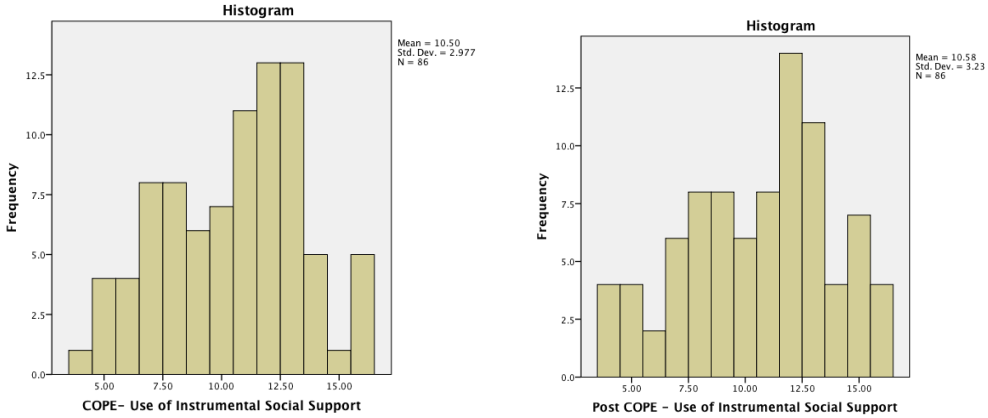

Figure 22. Distribution of the COPE subscale use of instrumental social support across participants (*N* = 115). Note. Post refers to measurement six-months following the disclosure exercise.

3.21 COPE Suppression of Competing Activities subscale

The descriptive statistics for the COPE scale of suppression of competing activities are shown in table 28. Skewness for the scale ranged between .11 (baseline) and .09 (six-month follow-up), kurtosis of the baseline scale was -.17 and for the six-month follow-up it was -.53. Kolmogorov-Smirnov-Test for normality suggests that the baseline scale of suppression of competing activities is normally distributed, however the six-month follow-up is not (Figure 23).

Table 28

Means and Standard Deviations for the Suppression of Competing Activities COPE Subscale

	Pre		Post	
COPE Subscale	*M*	*SD*	*M*	*SD*
Suppression of competing activities	9.54	2.52	9.34	2.5

Note. *M* = mean, *SD* = standard deviation, *N* = 115

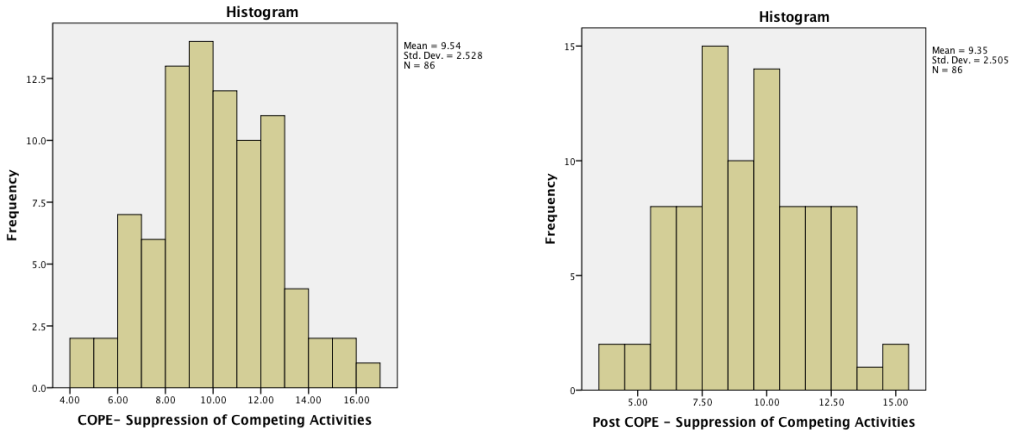

Figure 23. Distribution of the COPE subscale suppression of competing activities across participants (*N* = 115). Note. Post refers to measurement six-months following the disclosure exercise.

3.22 Emotional Approach Coping

The descriptive statistics for the emotional approach coping are shown in table 29. Skewness for emotional approach coping scale ranged between -.06 (baseline) and -.07 (six-month follow-up), kurtosis of the baseline emotional approach coping scale was -.51 and for the six-month follow-up it was -.66. Kolmogorov-Smirnov-Test for normality is normally distributed at baseline and six-month follow-up (Figure 24).

Table 29

Means and Standard Deviations for Emotional Approach Coping Scale

	Pre		Post	
Scale	*M*	*SD*	*M*	*SD*
Emotional Approach Coping	22.37	5.23	22.63	5.25

Note. *M* = mean, *SD* = standard deviation, *N* = 115

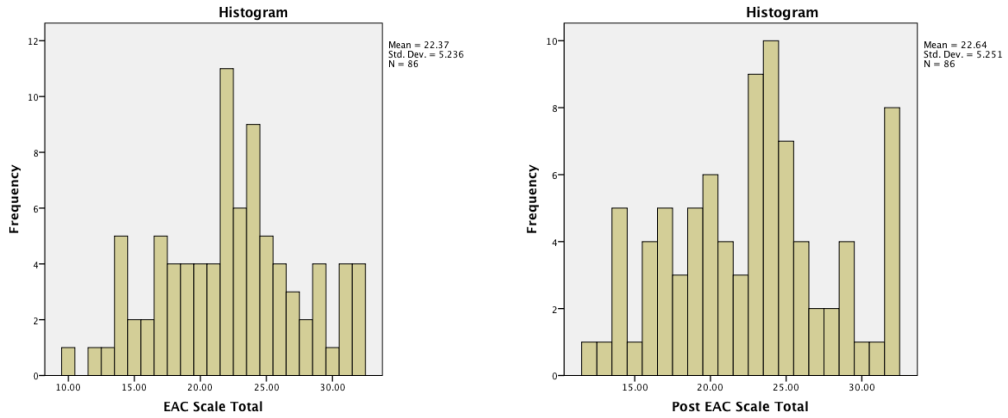

Figure 24. Distribution of the Emotional Approach Coping scale across participants (*N* = 115). Note. Post refers to measurement six-months following the disclosure exercise.

4.0 Testing the Hypotheses

4.1 Well-Being Outcomes

A series of repeated measures ANOVAs (Time: Baseline (1), Follow-up (2) x 5 Group (Emotional Disclosure Writing, Emotional Disclosure Drawing, Placebo Writing, Placebo Drawing, Control) with time as a within-subjects factor and experimental group as a between-subjects factor was employed to test differences on well-being outcomes. The independent variable was the experimental group, and the dependent variables were the well-being outcomes (emotional approach coping, satisfaction with life, coping, symptom distress, interpersonal relations, social role).

Hypothesis 1.1

There are significant differences between the emotional disclosure writing and emotional disclosure drawing group, compared to the placebo writing group, the placebo drawing group, and the control group on the six-month follow-up measure of satisfaction with life, as assessed by the Satisfaction of Life Scale.

4.1.1 Satisfaction with life

No significant main effects were revealed for the satisfaction with life scale, Time $F(1, 81) = .32$, *n.s*, and group $F(4, 81) = 2.38$, *n.s.* There were no significant time by group interactions $F(4, 81) = .54$, *n.s.*

Hypothesis 1.2

There are significant differences between the emotional disclosure writing and emotional disclosure drawing group, compared to the placebo writing group, the placebo drawing group, and the control group on the six-month follow-up measure of social role as assessed by the OQ-45 Scale.

4.1.2 OQ-45 Social role

No significant main effects were revealed for the OQ-45 scale of social role, for time $F(1, 81) = .01$, *n.s*, and group $F(4, 81) = 1.77$, *n.s*. There was no significant interaction reported for time by group $F(4, 81) = 1.12$, *n.s*.

Hypothesis 1.3

There are significant differences between the emotional disclosure writing group and the emotional disclosure drawing group, compared to the placebo writing group, the placebo drawing group, and the control group on the six-month follow-up measure of symptom distress, as assessed by the OQ-45 Scale

4.1.3 OQ-45 Symptom distress

No significant main effects were revealed for the OQ-45 scale of symptom distress for time $F(1, 81) = .01$, *n.s*, and experimental group $F(4, 81) = 1.13$, *n.s*. No significant interaction was revealed for time by group $F(4, 81) = 1.77$, *n.s*. In terms of manipulation checks, the non-significant main effect of time suggests that the disclosure intervention could not change the OQ-45 subscale of symptom distress.

Hypothesis 1.4

There are significant differences between the emotional disclosure writing group and the emotional disclosure drawing group, compared to the placebo writing group, the placebo drawing group, and the control group on the six-month follow-up measure of interpersonal relations, as assessed by the OQ-45 Scale.

4.1.4 OQ-45 Interpersonal relations

For the OQ-45 scale of interpersonal relations, the repeated measures analysis of variance revealed a significant time by treatment interaction $F(4, 81) = 2.56$, $p < .05$ (Figure 24) indicating that emotional disclosure writing and placebo disclosure writing decreased in interpersonal relations whilst the remaining groups increased. No significant main effect was revealed for time $F(1, 81)$ .001, *n.s*, or experimental group $F(4, 81) = 1.76$, *n.s.*

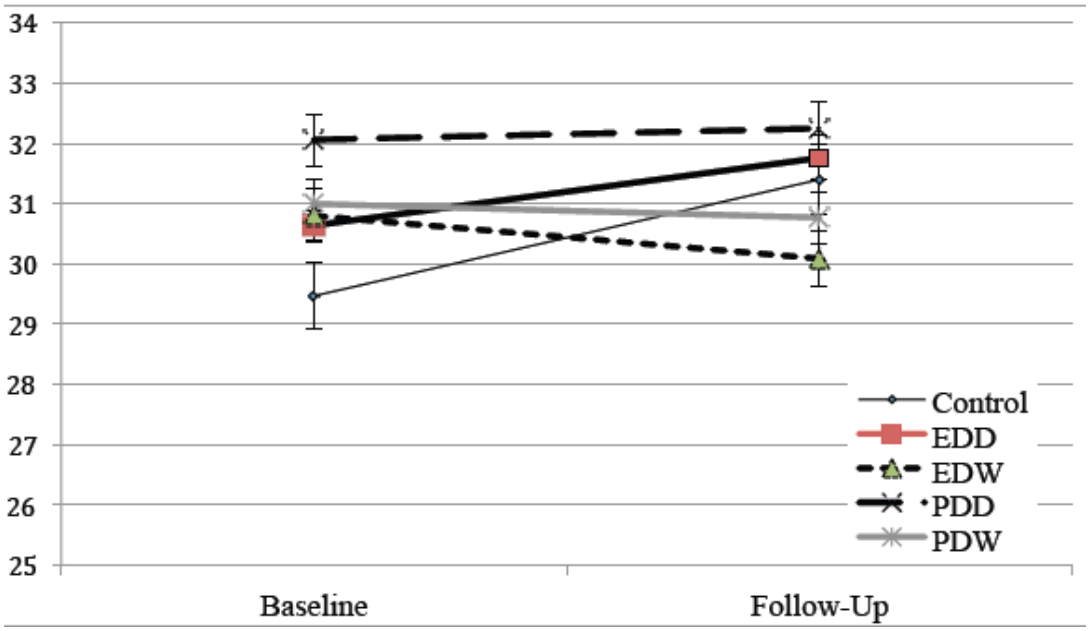

Figure 25. Time by treatment interaction for the OQ-45 scale of interpersonal relations. Note. Error bars represent standard error of the mean. Baseline refers to completion of the scale prior to disclosure exercise, and follow-up refers to six-months post disclosure exercise. Control = Control group (n = 30), EDD= Emotional disclosure drawing (n = 22), EDW = Emotional disclosure writing (n = 29), PDD = Placebo disclosure drawing (n = 16), PDW = Placebo disclosure writing (n = 18).

4.2 Coping

Hypothesis 2.1

There are significant differences between the emotional disclosure writing and drawing groups, compared to the placebo writing, placebo drawing, and the control groups on the six-month follow-up measure of adaptive emotion-focused coping, as assessed by the COPE subscales: seeking social support for emotional reasons, positive reinterpretation and growth, acceptance, turning to religion, and humor.

4.2.1 Positive Reinterpretation and Growth

For the COPE scale of positive reinterpretation and growth, the repeated measures analysis of variance revealed a significant time x treatment interaction $F(4, 81) = 3.13$, $p < .05$ (Figure 26), due to increases in emotional disclosure drawing and the relative stability in emotional disclosure writing, placebo disclosure drawing, and placebo disclosure writing. The control group did not demonstrate change. Significant main effects were also revealed for time $F(1, 81) = 15.37$, $p < .001$. No significant main effects were found for experimental group $F(4, 81) = .96$, *n.s*.

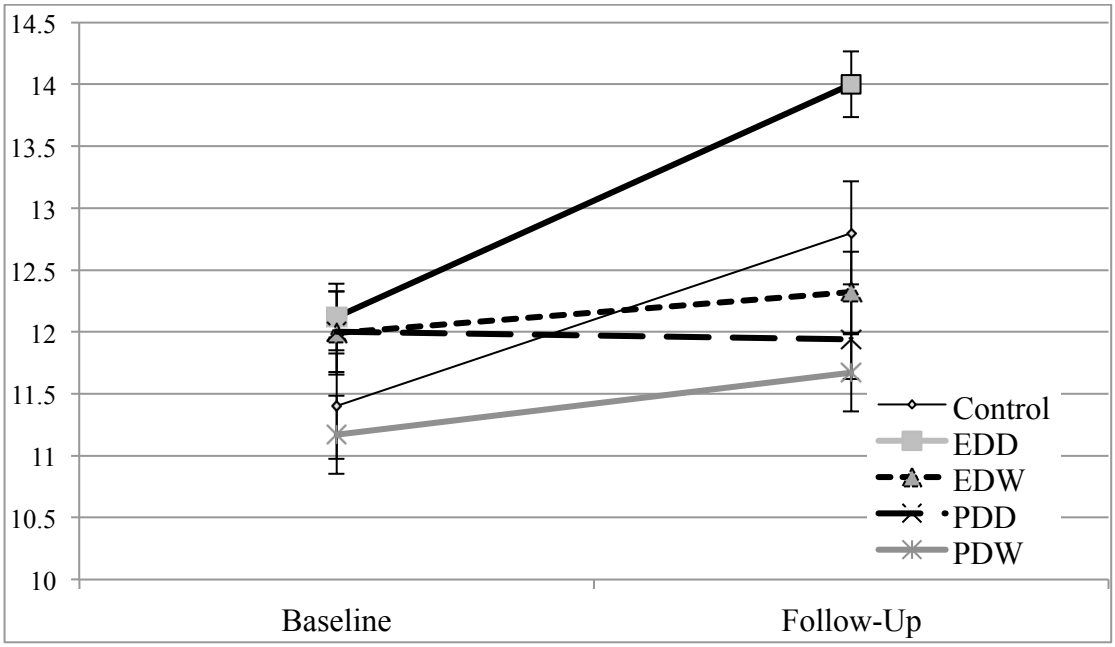

Figure 26. Time by treatment interaction for the COPE subscale of positive reinterpretation and growth. Note. Error bars represent standard error of the mean. Baseline refers to completion of the scale prior to disclosure exercise, and follow-up refers to six-months post disclosure exercise. Error bars represent standard error of the mean. Control = Control group (n = 30), EDD= Emotional disclosure drawing (n = 22), EDW = Emotional disclosure writing (n = 29), PDD = Placebo disclosure drawing (n = 16), PDW = Placebo disclosure writing (n = 18).

4.2.2 Religious Coping

For the COPE scale of religious coping, the repeated measures analysis of variance revealed a significant time by treatment interaction $F(4, 80) = 3.11$, $p < .05$ (Figure 26), and a significant main effect for time $F(1, 80) = 59.9$, $p < .001$. These results indicate that for this particular study, all participants in all disclosure groups increased in religious coping. Figure 27 illustrates that all groups increased except the

control group. There were no significant main effects for experimental group $F(4, 80) = .18$, *n.s.*

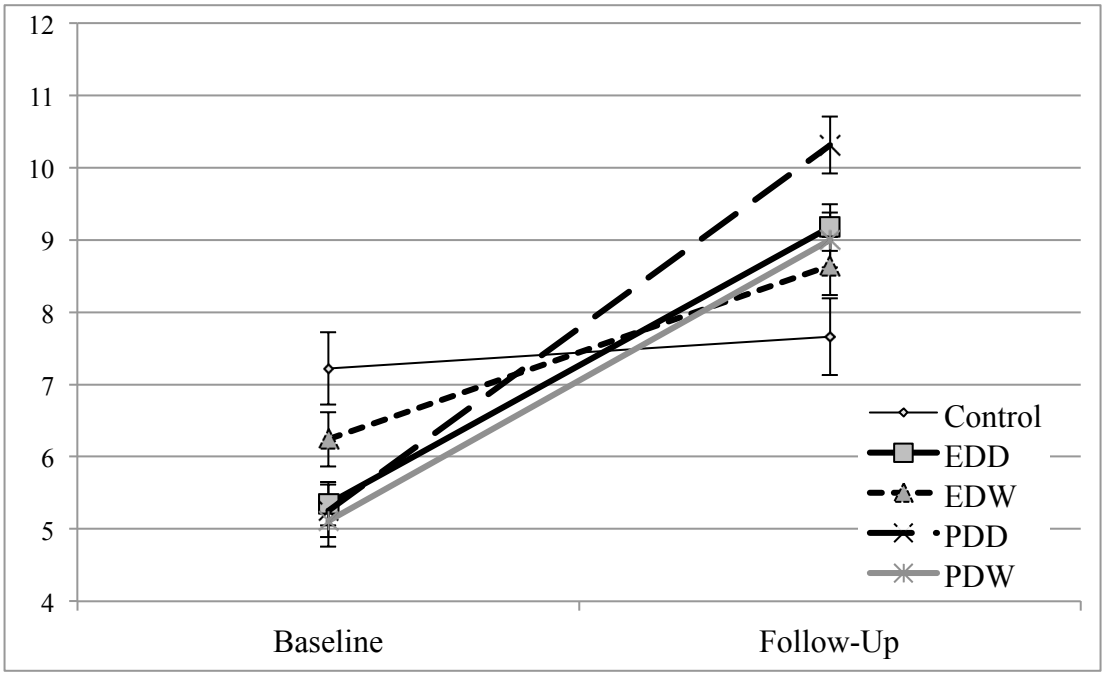

Figure 27. Time by treatment interaction for the COPE subscale of religious coping. Note. Error bars represent standard error of the mean. Baseline refers to completion of the scale prior to disclosure exercise, and follow-up refers to six-months post disclosure exercise. Control = Control group ($n = 30$), EDD= Emotional disclosure drawing ($n = 22$), EDW = Emotional disclosure writing ($n = 29$), PDD = Placebo disclosure drawing ($n = 16$), PDW = Placebo disclosure writing ($n = 18$).

4.2.3 Seeking social support for emotional reasons

No significant main effects were revealed for the COPE scale of seeking social support for emotional reasons for time $F(1, 81) = .45$, *n.s*, experimental group $F(4, 81) = .34$, *n.s*. There were no significant interactions for time by group $F(4, 81) = .06$, *n.s*. In terms of manipulation checks, the non-significant main effect of time suggests that

the disclosure intervention could not change the COPE subscale of seeking social support for emotional reasons.

4.2.4 Acceptance

For the COPE scale of acceptance, the repeated measures analysis of variance revealed no significant main effects for time $F(1, 80) = 1.35$, *n.s*, or experimental group $F(4, 80) = .62$, *n.s.* There were no significant interaction effects for time by group $F(4, 80) = .69$, *n.s*, and. In terms of manipulation checks, the non-significant main effect of time suggests that the disclosure intervention could not change the COPE subscale of acceptance.

4.2.5 Humour

For the COPE scale of humor, no significant main effects were revealed for time $F(1, 81) = 2.38$, *n.s*, or for experimental group $F(4, 81) = 1.97$, *n.s*. There were no significant interactions for time by group $F(4, 81) = .06$, *n.s*. In terms of manipulation checks, the non-significant main effect of time suggests that the disclosure intervention could not change the COPE subscale of humour.

Hypothesis 2.2

There are significant differences between the emotional disclosure writing and drawing groups, compared to the placebo writing and placebo drawing and the control groups on the six-month follow-up measure of maladaptive emotion-focused coping as assessed by the COPE subscales: denial, mental disengagement, behavioural disengagement, focusing on and venting emotions, and substance use.

4.2.6 Mental Disengagement

The repeated measures analysis of variance revealed significant time by treatment interaction $F(4, 81) = 3.23$, $p < .05$ (Figure 28), indicating that the emotional disclosure drawing group decreased in mental disengagement, whilst the emotional disclosure writing group increased in mental disengagement. These differences are significant. No significant main effects were reported for time $F(1, 81) = 1.16$, *n.s*, or experimental group $F(4, 81) = 1.41$, *n.s.*

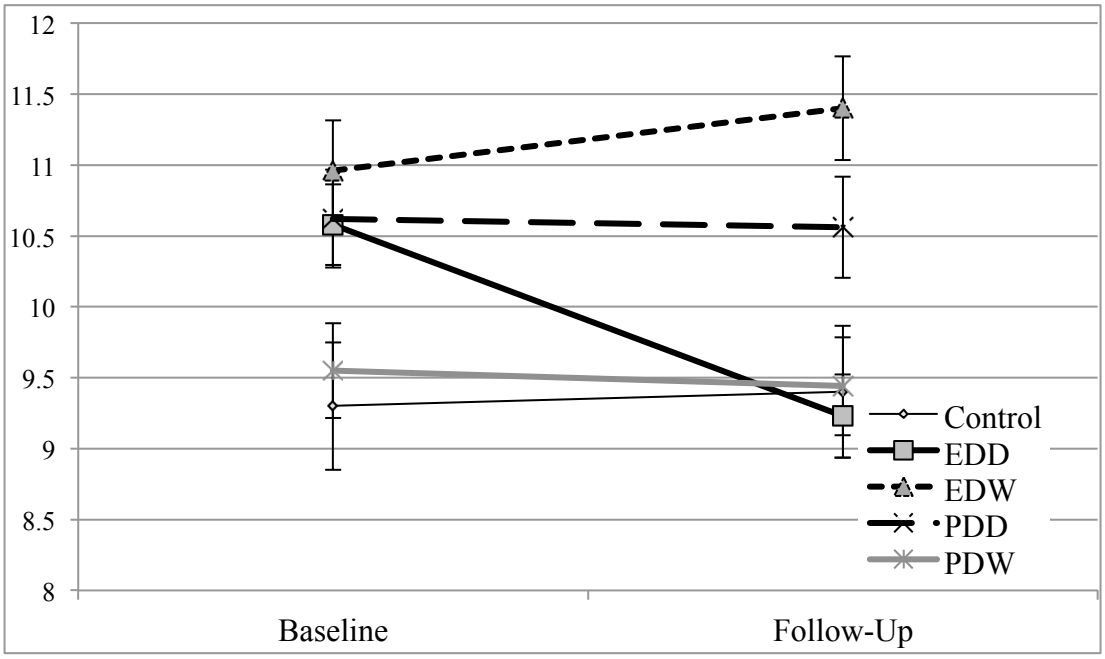

Figure 28. Time by treatment interaction for the COPE subscale of mental disengagement. Note. Error bars represent standard error of the mean. Baseline refers to completion of the scale prior to disclosure exercise, and follow-up refers to six months post disclosure exercise. Control = Control group ($n = 30$), EDD= Emotional disclosure drawing ($n = 22$), EDW = Emotional disclosure writing ($n = 29$), PDD = Placebo disclosure drawing ($n = 16$), PDW = Placebo disclosure writing ($n = 18$).

4.2.7 Substance Use

The repeated measures analysis of variance revealed a significant time by treatment interaction $F(4, 81) = 4.19$, $p < .01$ (Figure 29) and a significant main effect for time $F(1,81) = 4.7$, $p < .05$ for the COPE scale of substance use. These results indicate that all participants experienced changes in substance use, except the control group, which remained stable. Emotional disclosure drawing decreased in substance use, whilst emotional disclosure writing increased. Control group, placebo writing and placebo drawing groups also decreased in substance use from pre to post test. There were no significant main effects for experimental group $F(4,81) = .58$, *n.s*.

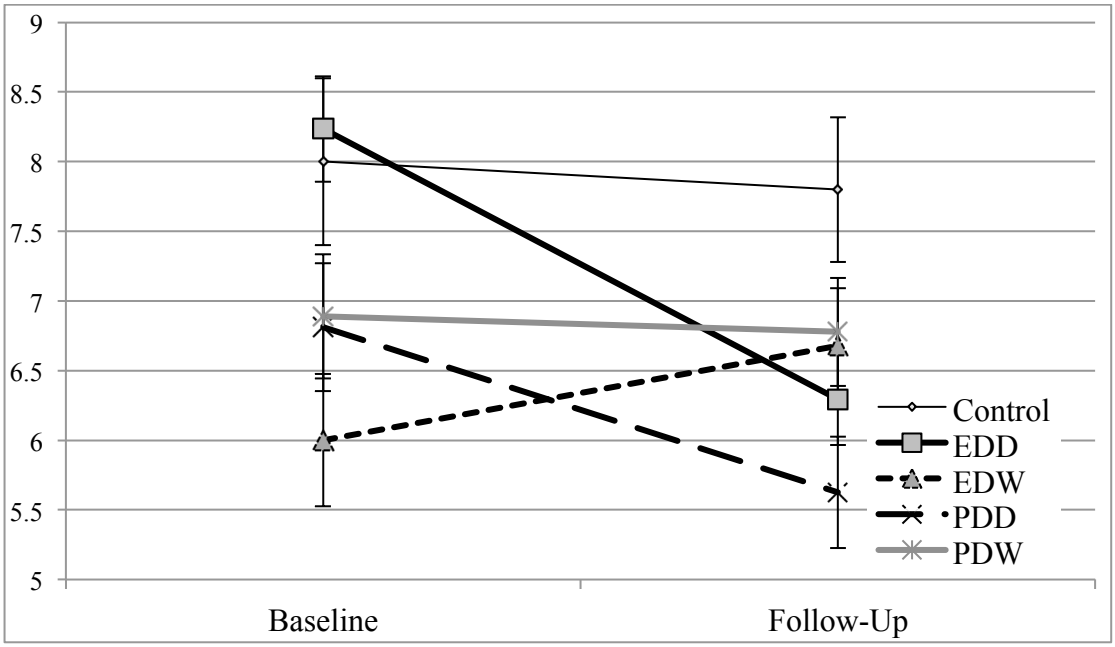

Figure 29. Time by treatment interaction for the COPE subscale of substance use. Note. Error bars represent standard error of the mean. Baseline refers to completion of the scale prior to disclosure exercise, and follow-up refers to six-months post disclosure exercise. Control = Control group (n = 30), EDD= Emotional disclosure drawing (n = 22), EDW = Emotional disclosure writing (n = 29), PDD = Placebo disclosure drawing (n = 16), PDW = Placebo disclosure writing (n = 18).

4.2.8 Focus on and venting of emotions

For the COPE scale of focusing on and venting emotions, no significant main effects were revealed for time $F(1,81) = .01$, *n.s,* or experimental group $F(4, 81) = .64$, *n.s*. There were no significant interactions for time by group $F(4, 81) = .89$, *n.s*. In terms of manipulation checks, the non-significant main effect of time suggests that the disclosure intervention could not change the COPE subscale of focusing on and venting emotions.

4.2.9 Denial

No significant main effects were revealed for the COPE scale of denial for time $F(1, 81) = .14$, *n.s*, or experimental group $F(4,81) = .78$, *n.s*. There were no significant interaction effects for time by group $F(4, 81) = 2.3$, *n.s*. In terms of manipulation checks, the non-significant main effect of time suggests that the disclosure intervention could not change the COPE subscale of denial.

4.2.10 Behavioural disengagement

Analysis did not reveal significant main effects for the COPE scale of behavioral disengagement for time $F(1, 81) = .33$, *n.s,* or experimental group $F(4, 81) = 2.23$, *n.s.* There were no significant interaction effects for time by group $F(4, 81) = 1.91$, *n.s*. In terms of manipulation checks, the non-significant main effect of time suggests that the disclosure intervention could not change the COPE subscale of behavioural disengagement.

Hypothesis 2.3

There are significant differences between the emotional disclosure writing and drawing groups, compared to the placebo writing and drawing and the control groups on the six-month follow-up measure of problem-focused coping as assessed by the COPE subscales: active coping, planning, restraint, suppression of competing activities, and seeking support for instrumental reasons.

4.2.11 Active Coping

For the COPE scale of active coping, the repeated measures analysis of variance revealed a significant time by treatment interaction $F(4, 81) = 6.16$, $p <. 001$ (Figure 30), and a significant main effect for time $F(1, 81) =13.0$, $p < .001$. Figure 30

illustrates that emotional disclosure drawing increased the most, whilst placebo disclosure writing group decreased slightly. There were no significant main effects for experimental group $F(4, 81) = 1.39$, *n.s.*

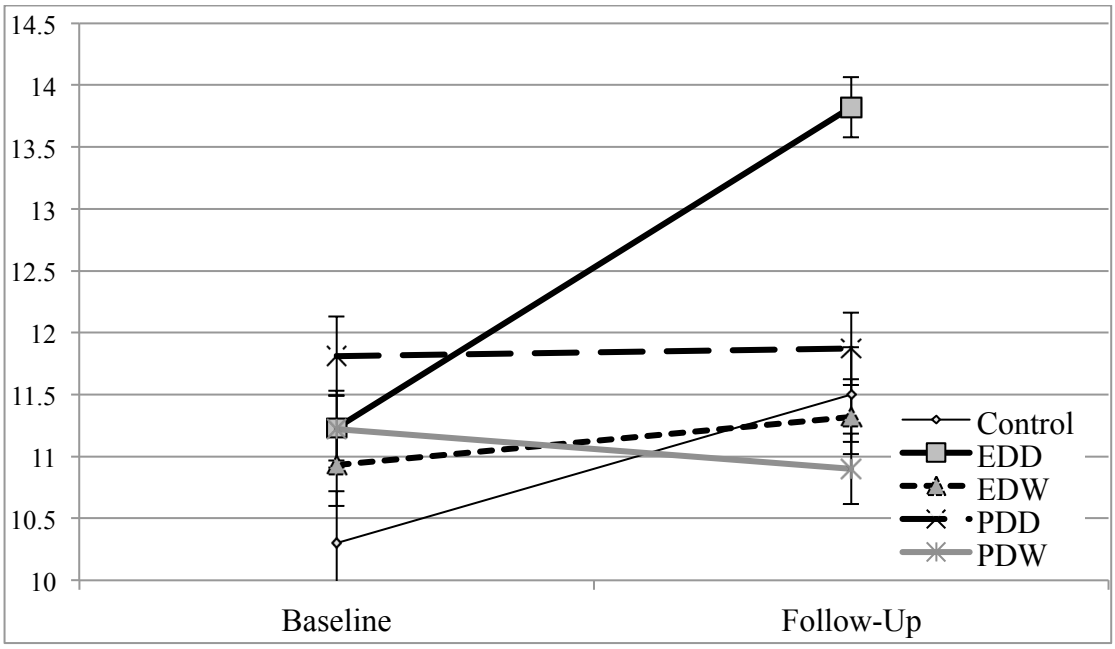

Figure 30. Time by treatment interaction for the COPE subscale of active coping. Note. Error bars represent standard error of the mean. Baseline refers to completion of the scale prior to disclosure exercise, and follow-up refers to six-months post disclosure exercise. Control = Control group ($n = 30$), EDD= Emotional disclosure drawing ($n = 22$), EDW = Emotional disclosure writing ($n = 29$), PDD = Placebo disclosure drawing ($n = 16$), PDW = Placebo disclosure writing ($n = 18$).

4.2.12 Restraint

For the COPE subscale of restraint, the repeated measures analysis of variance revealed a significant main effect for time $F(1, 81) = 73.86$, $p < .001$, a significant interaction for time by treatment $F(4, 81) = 4.60$, $p < .05$ (Figure 31), and a significant

main effect for experimental group $F(4, 81) = 5.25$, $p < .001$. All groups decreased in restraint, aside from the control group, which remained relatively stable.

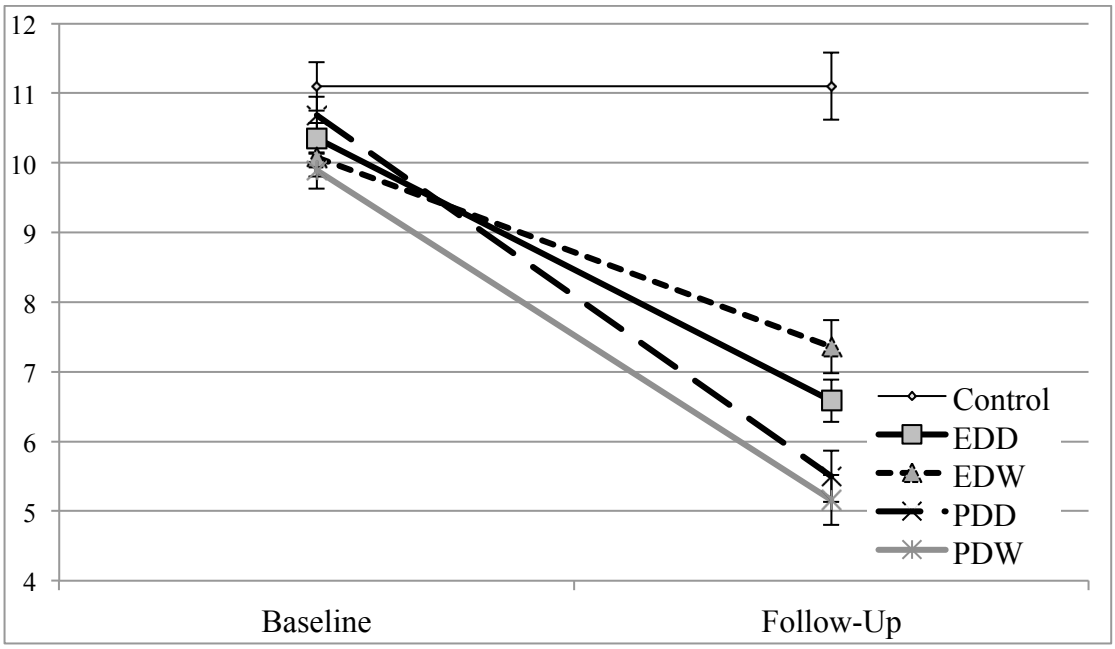

Figure 31. Time by treatment interaction for the COPE subscale of restraint. Note. Error bars represent standard error of the mean. Baseline refers to completion of the scale prior to disclosure exercise, and follow-up refers to six-months post disclosure exercise. Control = Control group ($n = 30$), EDD= Emotional disclosure drawing ($n = 22$), EDW = Emotional disclosure writing ($n = 29$), PDD = Placebo disclosure drawing ($n = 16$), PDW = Placebo disclosure writing ($n = 18$).

4.2.13 Planning

For the COPE scale of planning, a significant time by treatment interaction $F(4, 81) = 7.72$, $p < .01$ (Figure 32) was revealed, alongside a significant main effect for time $F(1, 81) = 12.44$, $p < .001$. These results indicate that participants for the emotional disclosure drawing group increased in planning more than other groups. There were no significant main effects for experimental group $F(4, 81) = 1.42$, *n.s.*

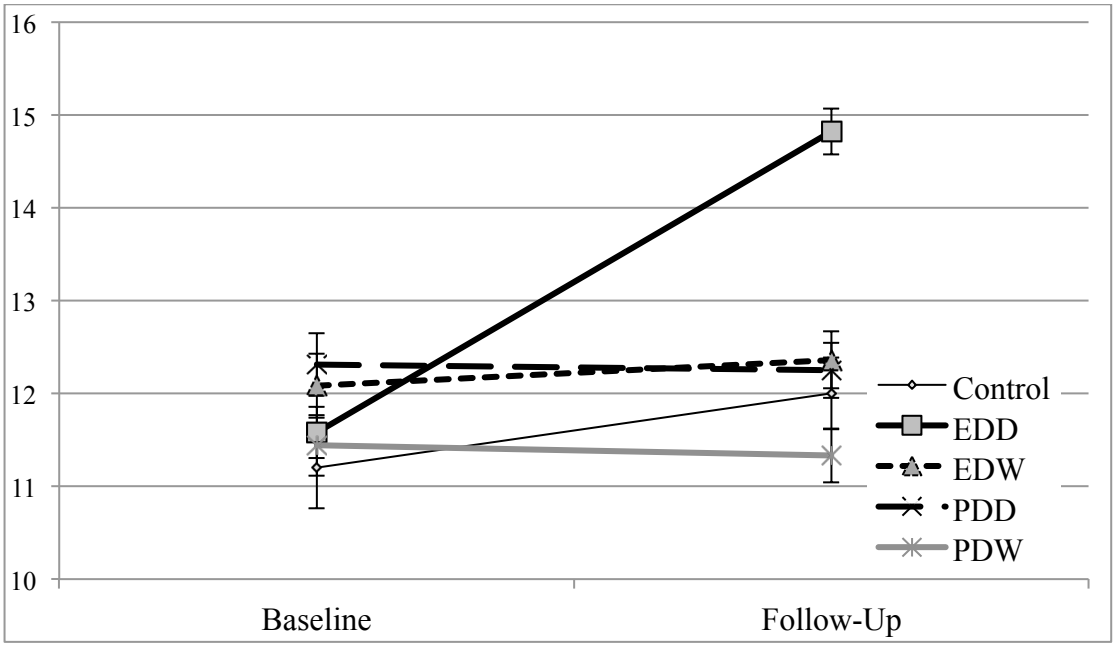

Figure 32. Time by treatment interaction for the COPE subscale of planning. Note. Error bars represent standard error of the mean. Baseline refers to completion of the scale prior to disclosure exercise, and follow-up refers to six-months post disclosure exercise. Control = Control group (n = 30), EDD= Emotional disclosure drawing (n = 22), EDW = Emotional disclosure writing (n = 29), PDD = Placebo disclosure drawing (n = 16), PDW = Placebo disclosure writing (n = 18).

4.2.14 Seeking social support for instrumental reasons

There were no significant main effects for time $F(1, 81) = .01$, *n.s,* or significant interaction effects for time by group $F(4, 81) = .89$, *n.s*. There was a significant main effect for experimental group, with the highest levels of seeking social support in the emotional disclosure drawing group $F(4, 81) = .64$, $p < .05$.

4.2.15 Suppression of competing activities

No significance main effects were revealed for time $F(1, 81) = .68$, *n.s,* or experimental group $F(4, 81) = 1.11$, *n.s.* No significant interaction effects were revealed for time by group $F(4, 81) = 3.6$, *n.s.*

Hypothesis 2.4

There are significant differences between the emotional disclosure writing and the emotional disclosure drawing group compared to the placebo writing, placebo drawing, and control groups on the six-month follow-up measure of emotional approach coping, as assessed by the EAC Scale.

For baseline and follow-up measures of emotional approach coping, the ANOVA revealed no significant main effects for time $F(1, 81) = 1.22$, *n.s*, or significant interaction effects for time by group $F(4, 81)= .56$, *n.s.* There was an overall significant main effect of group, $F(1, 81)=3.27$, $p < .05$ with the emotional disclosure drawing group demonstrating highest levels of emotional approach coping.

4.30 Disclosure Analysis

4.3.1 PANAS-X

To test hypothesis 3.1, 3.2, and 3.3, data from each participant on each subscale was first transformed into change scores to detect changes prior to and after each disclosure exercise. This was achieved by subtracting participants pre disclosure PANAS-X score from their post disclosure PANAS-X score on all subscales. A series of repeated measures ANOVAs (Time: Week 1 (1), Week 2 (2), Week 3 (3), Week 4 (4), x 4 Group (Emotional Disclosure Writing, Emotional Disclosure Drawing, Placebo Writing, Placebo Drawing), with time as a within-subjects factor and group as

a between subjects factor was employed to test differential changes in affect according to emotional disclosure exercise. The independent variable were time and experimental group, and the dependent variable was each PANAS-X subscale.

Hypothesis 3.1

There are significant differences between the emotional disclosure groups and the control as well as placebo disclosure groups on the four weekly assessments of positive affect as measured by the PANAS-X subscales of positive affect, basic positive emotion scale, joviality, self-assurance, and attentiveness, taken prior and after the disclosure exercise.

4.3.2 Positive affect

The PANAS-X ANOVA analyses revealed a significant main effect for group on positive affect $F(3, 82) = 3.13$, $p < .05$), with significantly larger increases in positive affect for the emotional disclosure drawing group over all measurement points (Figure 33). There were no significant main effects for time $F(3, 246) = .63$, *n.s.* or significant interaction effects for time by group $F(9, 246) = .27$, *n.s.*

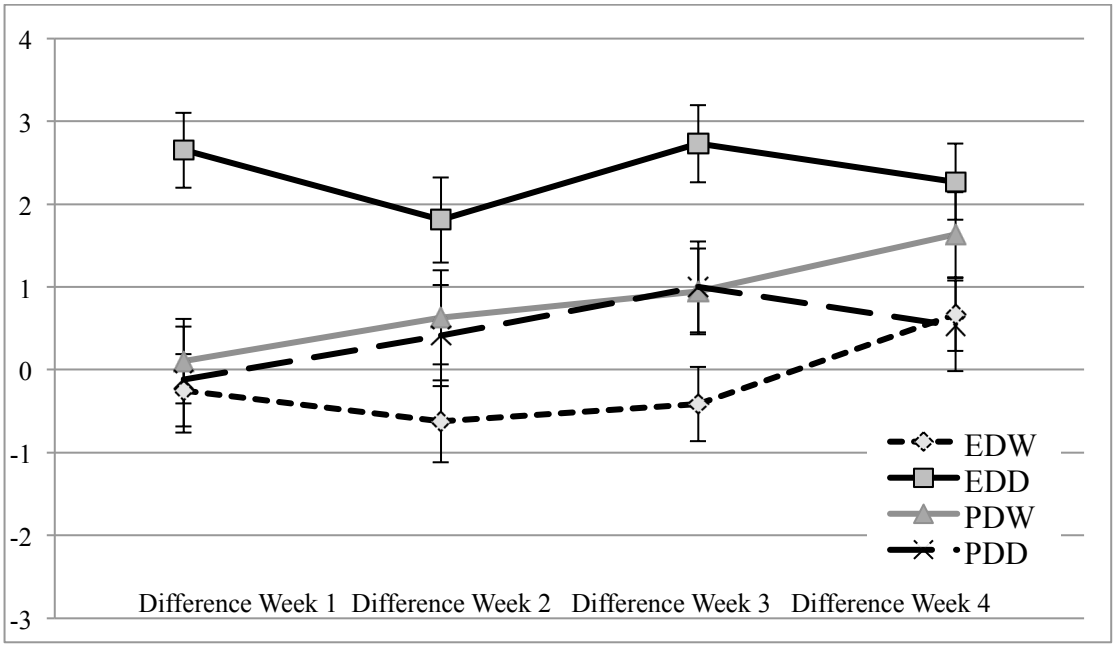

Figure 33. Main effect for group on the PANAS-X subscale of positive affect. Note. Error bars represent standard error of the mean. EDD= Emotional disclosure drawing (n = 22), EDW = Emotional disclosure writing (n = 29), PDD = Placebo disclosure drawing (n = 16), PDW = Placebo disclosure writing (n = 18). Difference refers to the subtracting of participants pre disclosure PANAS-X score from their post disclosure PANAS-X score.

4.3.3 Basic positive emotion scale

For the Basic positive emotion scale, ANOVA analysis revealed a significant main effect for group $F(3, 83) = 3.9$, $p < .05$), with the largest changes in EDD over all four measurement points (Figure 34). There were no significant main effects for time $F(3, 249) = .46$, *n.s.* or significant interaction effects for time by group $F(9, 249) = .46$, *n.s.*

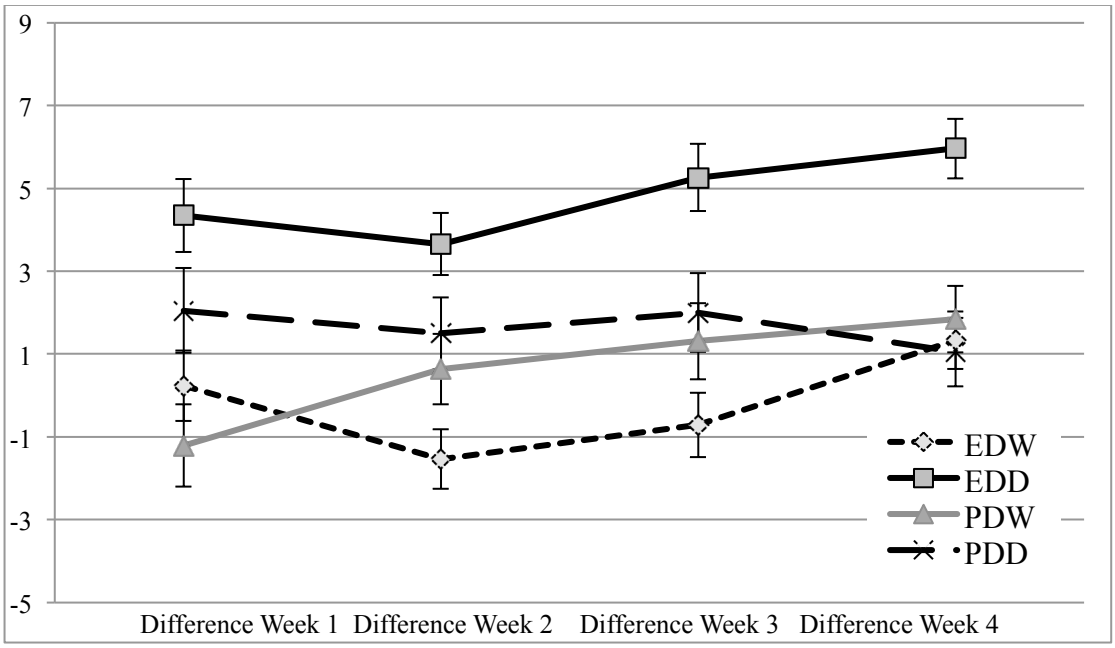

Figure 34. Main effect for group on the PANAS-X subscale of basic positive emotion scale. Note. Error bars represent standard error of the mean. EDD= Emotional disclosure drawing (n = 22), EDW = Emotional disclosure writing (n = 29), PDD = Placebo disclosure drawing (n = 16), PDW = Placebo disclosure writing (n = 18). Difference refers to the subtracting of participants pre disclosure PANAS-X score from their post disclosure PANAS-X score.

4.3.4 Joviality

Analysis for joviality revealed a significant main effect for group $F(3, 84) = 4.43$, $p < .05$, whereby the emotional disclosure drawing group gained the largest increases in joviality in all weeks apart from week 1 (Figure 35). There were no significant main effects for time $F(3, 252) = .98$, *n.s.* or significant interaction effects for time by group $F(9, 252) = .69$, *n.s.*

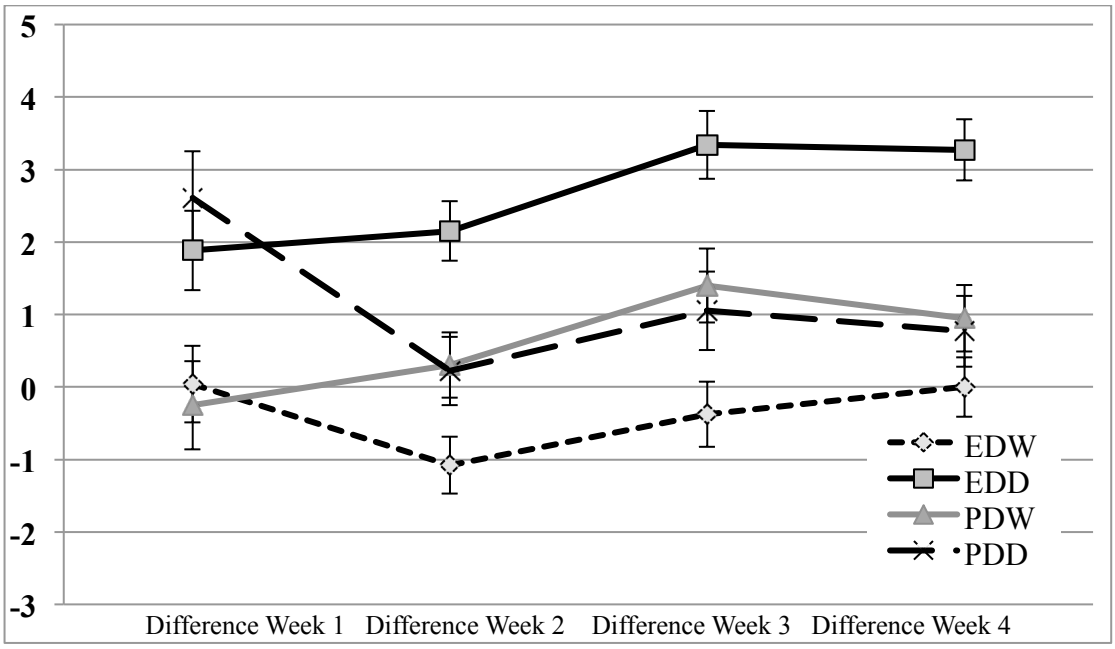

Figure 35. Main effect for group on the PANAS-X subscale of joviality. Note. Error bars represent standard error of the mean. EDD= Emotional disclosure drawing (n = 22), EDW = Emotional disclosure writing (n = 29), PDD = Placebo disclosure drawing (n = 16), PDW = Placebo disclosure writing (n = 18). Difference refers to the subtracting of participants pre disclosure PANAS-X score from their post disclosure PANAS-X score.

4.3.5 Self-assurance

There was a significant main effect for time, $F(3, 252) = 3.78$, $p < .05$ indicating that there were no significant differences in changes between the experimental groups. ANOVA analysis did not reveal significant main effects for group $F(9, 252) = .59$, *n.s*, or significant interaction effects for time by group $F(3, 84) = 2.64$, *n.s.*

4.3.6 Attentiveness

No significant main effects in attentiveness were found for groups $F(3, 83) = 1.5$, *n.s,* or time $F(3, 249) = .37$, *n.s.* No significant interaction effects were revealed for time by group $F(9, 249) = .90$, *n.s.*

Hypothesis 3.2

There are significant differences between the emotional disclosure groups and the control as well as placebo disclosure groups on the four weekly assessments of negative affect as measured by the PANAS-X subscales of negative affect, basic negative emotions scale, fear, hostility, guilt, and sadness, taken prior and after the disclosure exercise.

4.3.7 Negative affect

There was a time by group interaction on negative affect $F(9, 252) = 2.26$, $p < .05$, suggesting significant increases in negative affect in emotional disclosure writing, whilst the emotional disclosure drawing group decreased (Figure 36). There was also a significant main effect for group alone, due to emotional disclosure writing having significantly larger increases in negative affect than all other groups, and emotional disclosure drawing having significantly larger decreases in negative affect than all other groups. Analysis revealed significant main effects for time $F(3, 252) = 3.64$, $p < .05$, indicating that all groups changed in levels of negative affect across the four weeks. No significant interactions were reported for time x group $F(9, 252) = 2.25$, *n.s.*

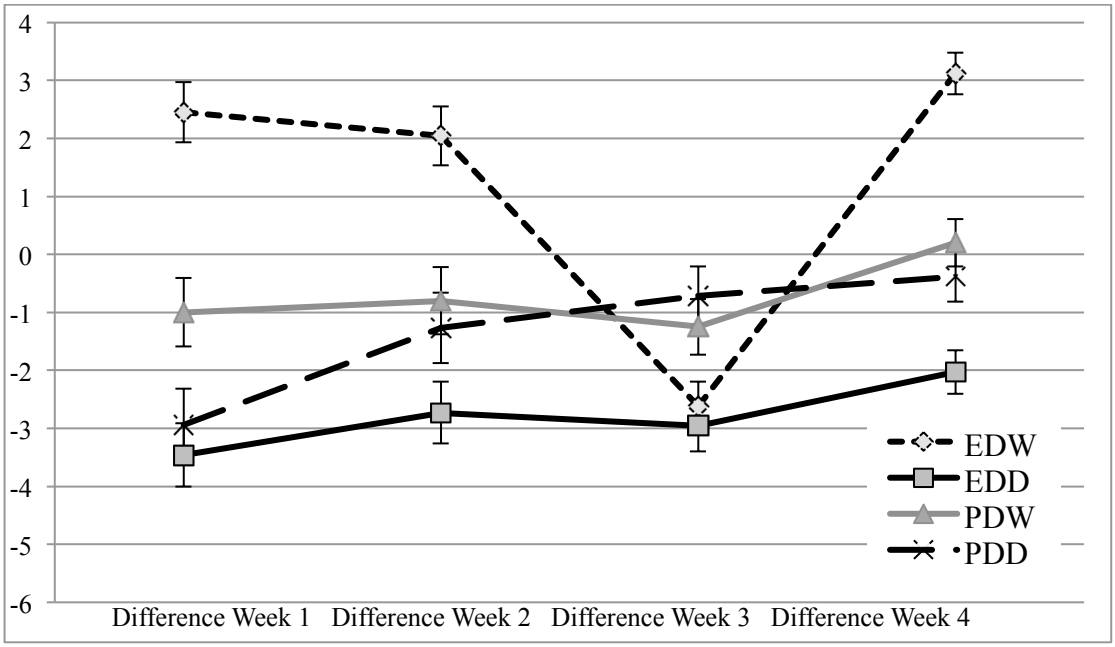

Figure 36. Time by group interaction on the PANAS-X subscale of negative affect. Note. Error bars represent standard error of the mean. EDD= Emotional disclosure drawing (n = 22), EDW = Emotional disclosure writing (n = 29), PDD = Placebo disclosure drawing (n = 16), PDW = Placebo disclosure writing (n = 18). Difference refers to the subtracting of participants pre disclosure PANAS-X score from their post disclosure PANAS-X score.

4.3.8 Basic negative emotion scale

Analysis revealed significant main effect for time, $F(3, 246) = 4.43$, $p < .05$, significant interaction effects for time by group $F(9, 246) = 3.26$, $p < .05$ (Figure 37) and significant main effect for Group $F(3, 82) = 13.41$, $p < .001$. These results suggest that the degree of change altered over time and groups.

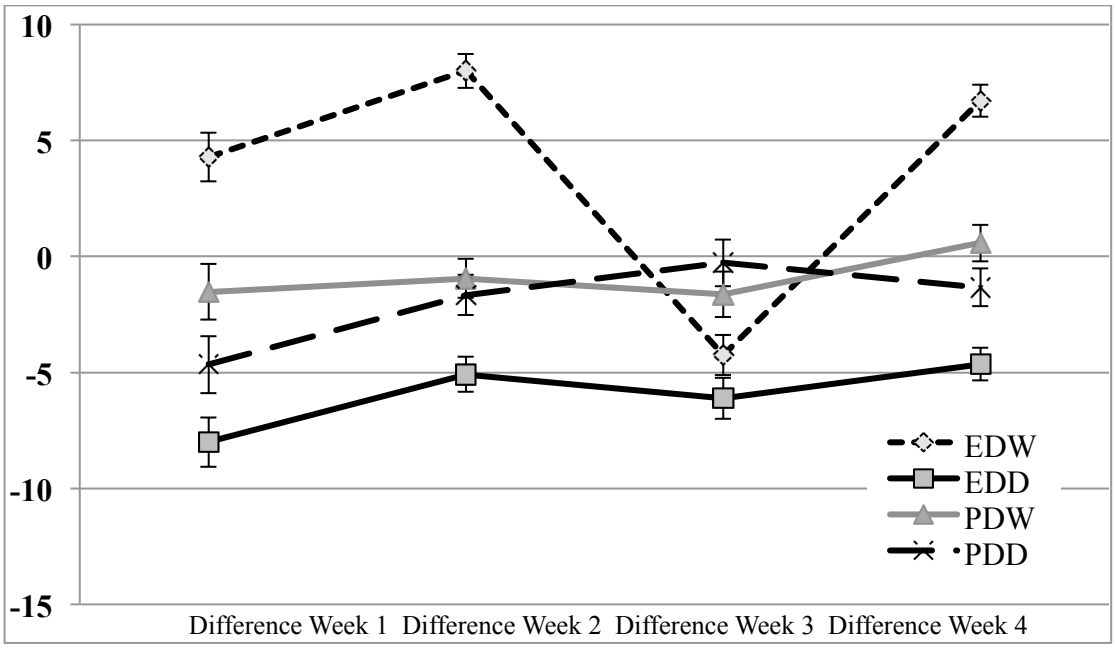

Figure 37. Time by group interaction on the PANAS-X subscale of basic negative emotion scale. Note. Error bars represent standard error of the mean. EDD= Emotional disclosure drawing (n = 22), EDW = Emotional disclosure writing (n = 29), PDD = Placebo disclosure drawing (n = 16), PDW = Placebo disclosure writing (n = 18). Difference refers to the subtracting of participants pre disclosure PANAS-X score from their post disclosure PANAS-X score.

4.3.9 Fear

Analysis revealed significant main effect of time $F(3, 249) = 3.9$, $p < .01$, a significant interaction for time by group $F(9, 249) = 5.0$, $p < .001$ (Figure 38) and a significant main effect for group $F(3, 83) = 5.57$, $p < .05$. These results and the week three decrease suggests that fear increases most in emotional disclosure writing, particularly in the first two weeks. However, there are no significant differences in the remaining weeks.

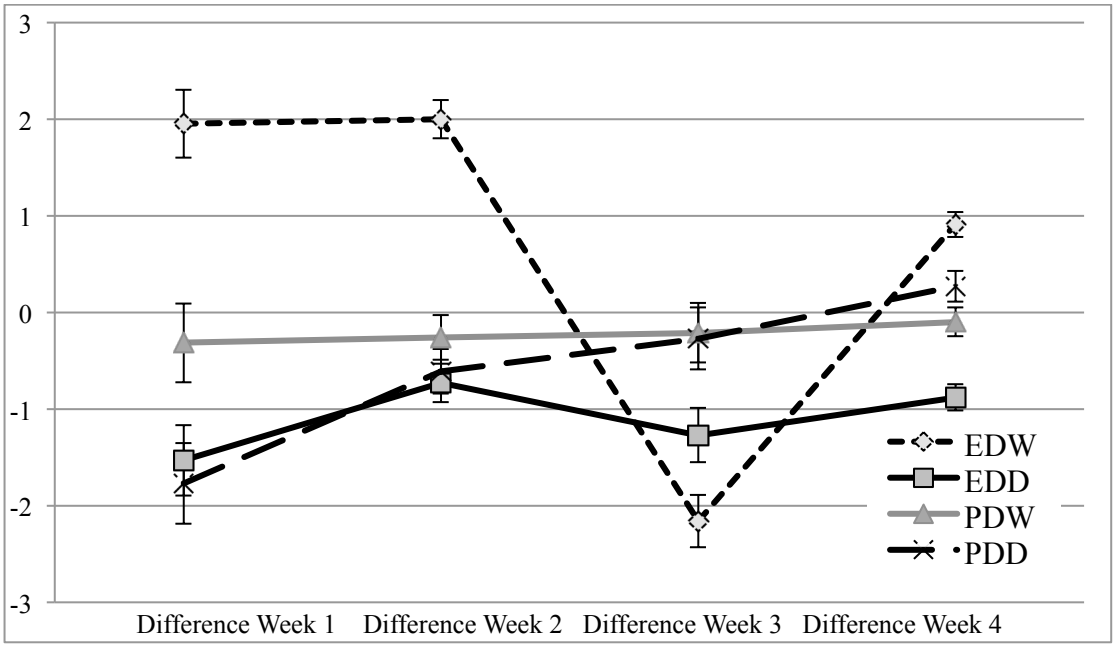

Figure 38. Time by group interaction on the PANAS-X subscale of fear. Note. Error bars represent standard error of the mean. EDD= Emotional disclosure drawing (n = 22), EDW = Emotional disclosure writing (n = 29), PDD = Placebo disclosure drawing (n = 16), PDW = Placebo disclosure writing (n = 18). Difference refers to the subtracting of participants pre disclosure PANAS-X score from their post disclosure PANAS-X score.

4.3.10 Hostility

There was a significant interaction effect of time by group $F(9, 252) = 2.05$, $p < .05$ (Figure 39), and a significant main effect for time $F(3, 252) = 2.98$, $p < .05$. This suggests that emotional disclosure writing had significantly higher increases in hostility than all other groups over time, and emotional disclosure drawing had significantly larger decreases in hostility over time. No significant main effects were found for group $F(3, 84) = .18$, *n.s.*

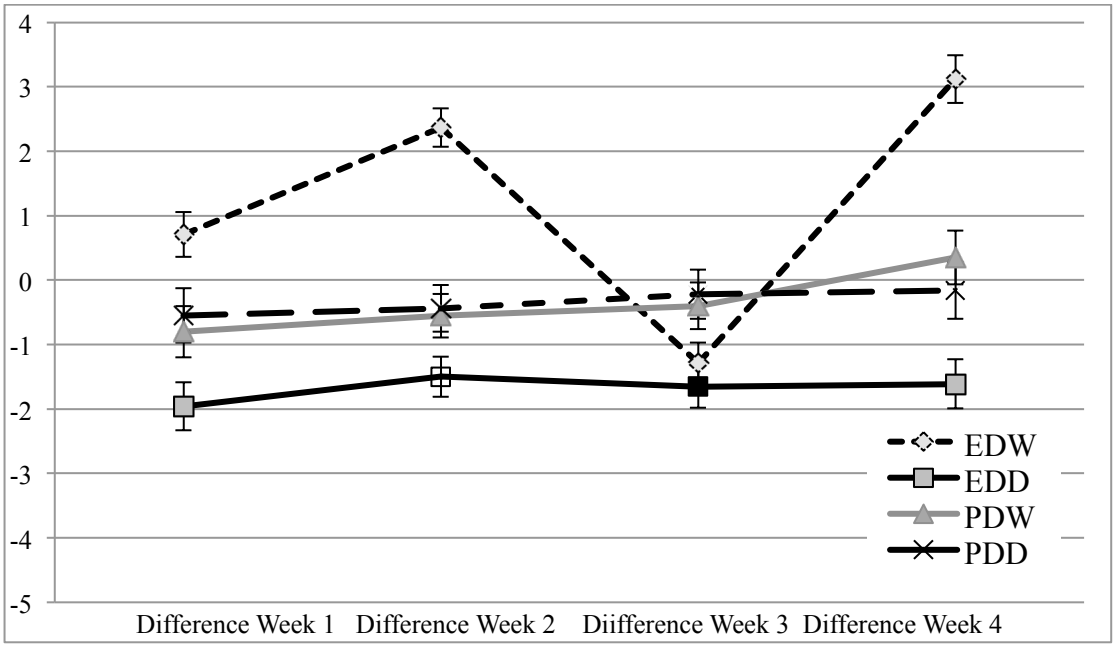

Figure 39. Time by group interaction on the PANAS-X subscale of hostility. Note. Error bars represent standard error of the mean. EDD= Emotional disclosure drawing (n = 22), EDW = Emotional disclosure writing (n = 29), PDD = Placebo disclosure drawing (n = 16), PDW = Placebo disclosure writing (n = 18). Difference refers to the subtracting of participants pre disclosure PANAS-X score from their post disclosure PANAS-X score.

4.3.11 Guilt

For guilt, the analysis revealed a significant main effect for group $F(1, 83) = 7.9$, $p < .001$ (Figure 40). Figure 39 shows that emotional disclosure drawing showed the greatest decreases over all four measurement points, whereas emotional disclosure writing had the largest increases over all four weeks. There were no significant main effects revealed for time $F(3, 249) = 2.58$, *n.s*. There were also no significant interaction effects for time by group $F(9, 249) = 1.22$, *n.s.*

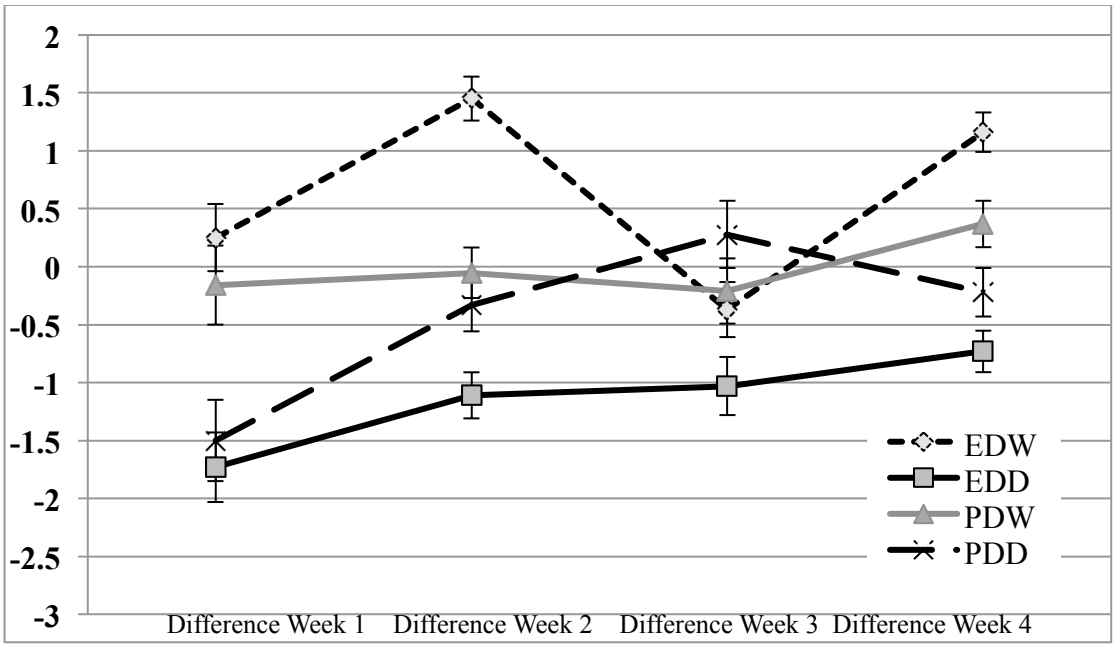

Figure 40. Time by group interaction on the PANAS-X subscale of guilt. Note. Error bars represent standard error of the mean. EDD= Emotional disclosure drawing (n = 22), EDW = Emotional disclosure writing (n = 29), PDD = Placebo disclosure drawing (n = 16), PDW = Placebo disclosure writing (n = 18). Difference refers to the subtracting of participants pre disclosure PANAS-X score from their post disclosure PANAS-X score.

4.3.12 Sadness

For sadness, there was a significant main effect for group $F(3, 83) = 13.83$, $p <$ .001 (Figure 41). No significant main effects were revealed for time $F(3, 249) = 1.84$, *n.s*. There were no significant interaction effects for time by group $F(9, 249) = 1.43$, *n.s*.

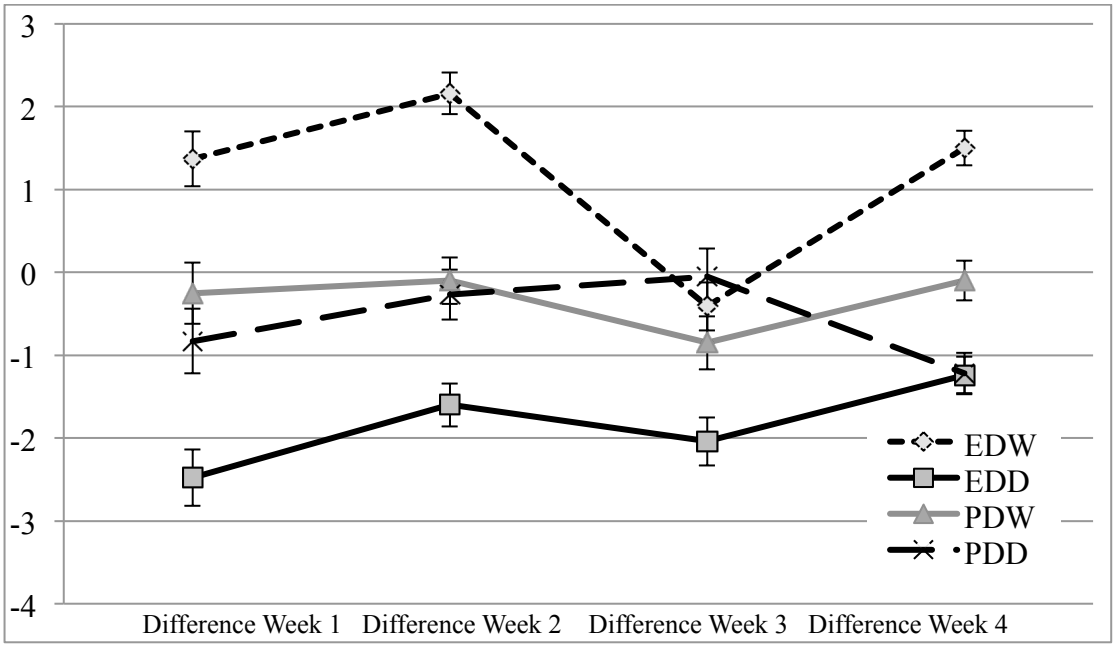

Figure 41. Time by group interaction on the PANAS-X subscale of sadness. Note. Error bars represent standard error of the mean. EDD= Emotional disclosure drawing (n = 22), EDW = Emotional disclosure writing (n = 29), PDD = Placebo disclosure drawing (n = 16), PDW = Placebo disclosure writing (n = 18). Difference refers to the subtracting of participants pre disclosure PANAS-X score from their post disclosure PANAS-X score.

Hypothesis 3.3

There are significant differences between the emotional disclosure groups and the control as well as placebo disclosure groups on the four weekly assessments of other affects as measured by the PANAS-X subscales of other affective states, shyness, fatigue, serenity, and surprise, taken prior and after the disclosure exercise.

4.3.13 Other Affective States

For the PANAS-X scale of other affective states, no significant main effects were found for time $F(3, 249) = 1.48$, *n.s,* or group $F(3, 83) = 1.18$, *n.s.* There were no significant interaction effects for time by group $F(9, 249) = .56$, *n.s.*

4.3.14 Shyness

For shyness, analysis revealed a significant main effect for group $F(3, 84) = 3.79$, $p < .01$ (Figure 42), indicating that emotional disclosure drawing had the largest decreases in shyness over all four weeks. No significant main effects were found for time $F(3, 252) = 1.36$, *n.s.* or significant interactions for time by group $F(9, 252) = .95$, *n.s.*

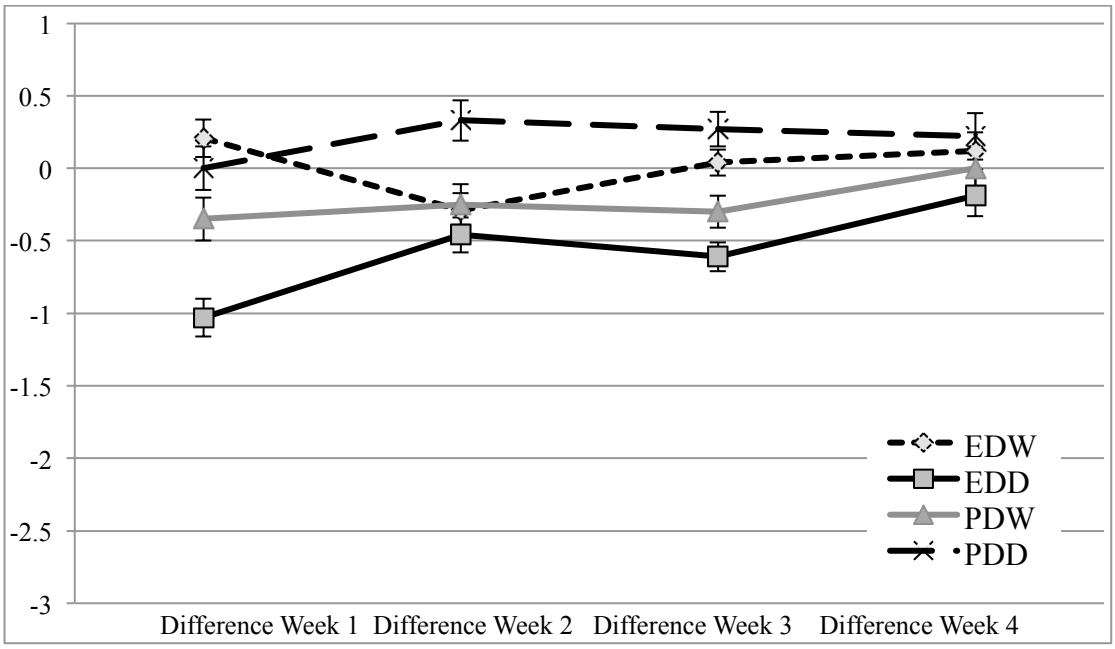

Figure 42. Main effect for group on the PANAS-X subscale of shyness. Note. Error bars represent standard error of the mean. EDD= Emotional disclosure drawing (n = 22), EDW = Emotional disclosure writing (n = 29), PDD = Placebo disclosure drawing (n = 16), PDW = Placebo disclosure writing (n = 18). Difference refers to the

subtracting of participants pre disclosure PANAS-X score from their post disclosure PANAS-X score.

4.3.15 Fatigue

For the scale of fatigue, ANOVA analysis revealed a significant main effect for group $F(3, 83) = 5.02$, $p < .005$ (Figure 43). Emotional disclosure writing had consistently larger decreases in fatigue over all four weeks than the other groups. There were no significant main effects for time $F(3, 249) = .18$, *n.s*. or significant interactions for time by group $F(9, 249) = .53$, *n.s*

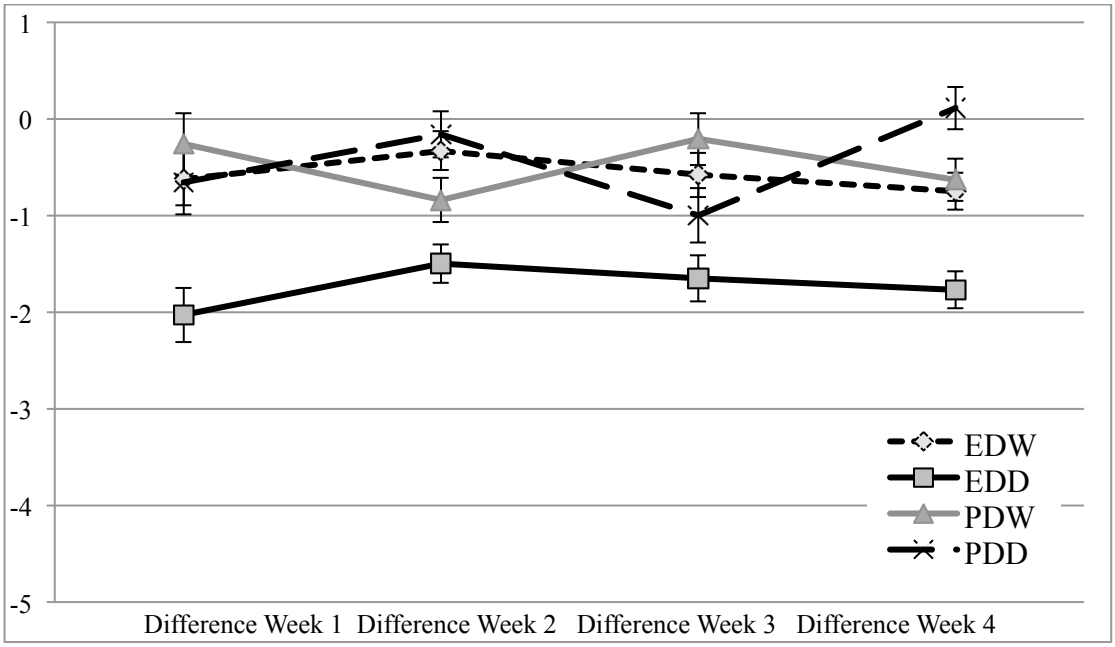

Figure 43. Main effect for group on the PANAS-X subscale of fatigue. Note. Error bars represent standard error of the mean. EDD= Emotional disclosure drawing (n = 22), EDW = Emotional disclosure writing (n = 29), PDD = Placebo disclosure drawing (n = 16), PDW = Placebo disclosure writing (n = 18). Difference refers to the subtracting of participants pre disclosure PANAS-X score from their post disclosure PANAS-X score.

4.3.16 Serenity

ANOVA analysis revealed a significant main effect of group $F(3, 84) = 4.01$, $p < .01$ (Figure 44), with largest increases in emotional disclosure drawing in weeks 1, 3 and 4. No significant main effects were revealed for time $F(3, 252) = 2.62$, *n.s,* and there were no significant interaction effects for time by group $F(9, 252) = 1.68$, *n.s.*

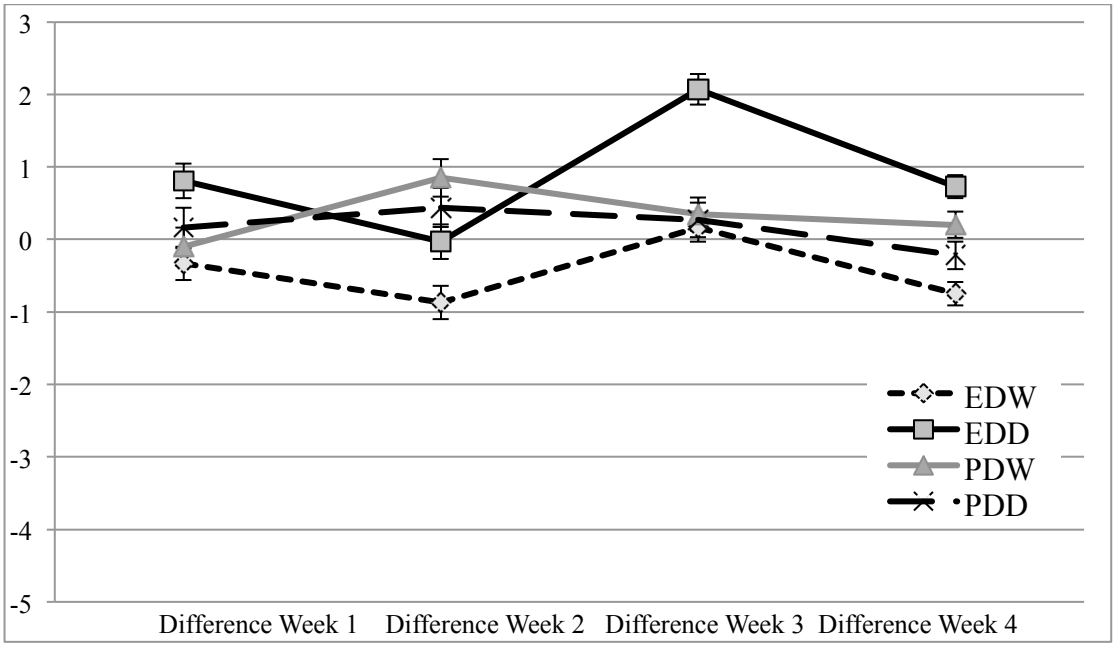

Figure 44. Main effect for group on the PANAS-X subscale of serenity. Note. Error bars represent standard error of the mean. EDD= Emotional disclosure drawing (n = 22), EDW = Emotional disclosure writing (n = 29), PDD = Placebo disclosure drawing (n = 16), PDW = Placebo disclosure writing (n = 18). Difference refers to the subtracting of participants pre disclosure PANAS-X score from their post disclosure PANAS-X score.

4.3.17 Surprise

For surprise, there were no significant main effects for time $F(3, 252) = .24$, *n.s,* and group $F(3, 84) = .12$, *n.s.* There were no significant interaction effects for time by group $F(9, 252) = 1.14$, *n.s.*

5.0 Summary of Results

A summary of hypotheses and results is presented in Table 30.

Table 30

Summary of Hypotheses and Results

Hypothesis	Result
1.1. There are significant differences between the emotional disclosure writing and emotional disclosure drawing group, compared to the placebo writing group, the placebo drawing group, and the control group on the six-month follow-up measure of satisfaction with life, as assessed by the Satisfaction with Life Scale.	No significant differences between groups, Hypothesis rejected.
1.2. There are significant differences between the emotional disclosure writing and emotional disclosure drawing group, compared to the placebo writing group, the placebo drawing group, and the control group on the six-month follow-up measure of social role as assessed by the OQ-45 Scale.	No significant differences between groups, Hypothesis rejected
1.3. There are significant differences between the emotional disclosure writing group and the emotional disclosure drawing group, compared to the placebo writing group, the placebo drawing group, and the control group on the six-month follow-up measure of symptom distress, as assessed by the OQ-45 Scale	No significant differences between groups, Hypothesis rejected
1.4. There are significant differences between the emotional disclosure writing group and the emotional disclosure drawing group, compared to the placebo writing group, the placebo drawing group, and the control group on the six-month follow-up measure of interpersonal relations, as assessed by the OQ-45 Scale.	Significant time by group interaction. Emotional disclosure decreased, whilst emotional disclosure drawing increased. Hypothesis partly retained.
2.1. There are significant differences between the emotional disclosure writing and drawing groups, compared to the placebo writing, placebo drawing, and the control groups on the six-month follow-up measure of adaptive emotion-focused coping, as assessed by the COPE subscales: seeking social support for emotional reasons, positive reinterpretation and growth, acceptance, turning to religion, and humour.	Significant interactions for time by group for positive reinterpretation and growth whereby emotional disclosure drawing increased the most. Significant main effects for time were revealed for religious coping. Hypothesis partially retained.
2.2. There are significant differences between the emotional disclosure writing and drawing groups, compared to the placebo writing, placebo drawing, and the control groups on the six-month follow-up measure of maladaptive emotion-focused coping, as assessed by the COPE subscales: focusing on and venting emotions, denial, behavioural	Significant interactions for time by group for substance use and mental disengagement. Emotional disclosure drawing reduced and emotional disclosure writing increased in these

disengagement, mental disengagement, and substance use.	subscales. Hypothesis partially retained.
2.3. There are significant differences between the emotional disclosure writing and drawing groups, compared to the placebo writing, placebo drawing, and the control groups on the six-month follow-up measure of problem-focused coping, as assessed by the COPE subscales: active coping, planning, suppression of competing activities, restraint coping, and seeking support for instrumental reasons.	Significant time by group interaction for active coping, seeking social support for instrumental reasons, and planning. Emotional disclosure drawing reported greatest increases. Main effects of time were revealed for group on the scale of restraint. Hypothesis partially retained.
2.4. There are significant differences between the emotional disclosure writing and the emotional disclosure drawing group compared to the placebo writing, placebo drawing, and control groups on the six-month follow-up measure of emotional approach coping, as assessed by the EAC Scale.	There was a significant main effect for group. Emotional disclosure drawing reported greatest levels of EAC. Hypothesis partially retained.
3.1 There are significant differences between the emotional disclosure groups and the control as well as placebo disclosure groups on the four weekly assessments of positive affect as measured by the PANAS-X subscales of positive affect, basic positive emotion scale, joviality, self-assurance, and attentiveness, taken prior and after the disclosure exercise.	There were significant main effects of group revealed for the scales positive affect, basic positive emotion scale, and joviality. Significant increases for emotional disclosure drawing. Hypothesis partially retained.
3.2 There are significant differences between the emotional disclosure groups and the control as well as placebo disclosure groups on the four weekly assessments of negative affect as measured by the PANAS-X subscales of negative affect, basic negative emotions scale, fear, hostility, guilt, and sadness, taken prior and after the disclosure exercises.	There were significant interaction effects for time by group reported for negative affect, basic negative emotion scale, fear, and hostility. There were significant main effects reported for group for the scales of fear, guilt, and sadness. Emotional disclosure writing reported greatest increases in negative affect. Hypothesis partially retained.
3.3 There are significant differences between the emotional disclosure groups and the control as well as placebo disclosure groups on the four weekly assessments of other affects as measured by the PANAS-X subscales of other affective states, shyness, fatigue, serenity, and surprise, taken prior and after the disclosure exercise.	There were significant main effects for group on the scales of shyness, fatigue, and serenity. Hypothesis partially retained.

CHAPTER 9

Discussion

The aim of this study was to investigate the effects of emotional disclosure writing and emotional disclosure drawing on indicators of subjective well-being (social role, symptom distress, interpersonal relations, satisfaction with life, and coping). Well-being outcomes were measured prior to an emotional disclosure exercise, and again six-months later. The study also aimed to investigate emotional disclosure writing and emotional disclosure drawing as an emotion regulation strategy on negative affect, positive affect, and other affective states, immediately following disclosure. Participants were from a community sample ($N = 115$).

Results revealed that there were significant group differences for the satisfaction with life scale, and the OQ-45 social role and symptom distress subscales. For the OQ-45 subscale of interpersonal relations, the emotional disclosure writing and placebo disclosure writing group reported increases in functioning whilst the emotional disclosure drawing group, placebo disclosure drawing, and control groups reported decreased functioning.

For the COPE scale there were significant baseline differences between the some of the scales (e.g., substance use). This suggests problems with randomization in the small sample. Nonetheless, participants in the emotional disclosure drawing group outperformed those in the emotional disclosure writing, placebo or control in the adaptive emotion-focused subscales (e.g., positive reinterpretation and growth, active coping, and planning) and problem-focused coping scales (e.g., active coping, planning, and seeking social support for instrumental reasons). For maladaptive

emotion-focused COPE scales, emotional disclosure writing reported significant increases in substance use and mental disengagement, whilst placebo disclosure groups decreased. This study found no significant results for the COPE scales of seeking social support for emotional reasons, acceptance, humour, focusing on and venting emotions, denial, behavioural disengagement, and suppression of competing activities. For the emotional approach coping scale all groups increased, however the emotional disclosure drawing group reported the highest levels of emotional approach coping.

Analysis of the PANAS-X responses prior to and after disclosure showed that there were significant increases in negative affect for the emotional disclosure writing group, whilst the emotional disclosure drawing group decreased. Furthermore, there were significant increases reported for the emotional disclosure drawing group in positive affective states.

The next section will discuss the results for each hypothesis in further detail, followed by the implications of the study's results on the use of emotional disclosure drawing and writing as emotion regulation strategies, populations, and clinical practice. Finally, the limitations of the study will be presented followed by future research directions, and major contributions and conclusions.

Subjective Well-being Outcomes

Satisfaction with life

The first hypothesis stated that there would be significant differences between the emotional disclosure writing and emotional disclosure drawing group, compared to the placebo writing group, the placebo drawing group, and the control group on the 6-

month follow-up measure of satisfaction with life. This was not supported by the results of the study. This is in contrast to previous studies of emotional disclosure writing that have reported significant increases in satisfaction with life following disclosure (e.g., Lyubomirsky, Sousa, and Dickerhoof , 2006, Schutte et al., 2012**)**.

As the current study utilized a community sample, there may have been too little differences in satisfaction with life across the six-months. For example, why should people who are sufficiently satisfied in life show large increases? Conversely, in clinical populations, or populations with key identified stressors (e.g., trauma), there may be significant impairment in satisfaction with life prior to disclosure, therefore effects following disclosure may be stronger (r = .04, Frattaroli, 2006).

OQ-45 Social role, symptom distress, and interpersonal relations

It was also hypothesized that there would be significant differences between the emotional disclosure writing and emotional disclosure drawing group, compared to the placebo writing group, the placebo drawing group, and the control group on the 6-month follow-up measure of social role, symptom distress, and interpersonal relations as assessed by the OQ-45 scale. The OQ-45 scale of interpersonal relations includes the satisfaction with, as well as problems in interpersonal relations such as friction, conflict, isolation, inadequacy, and withdrawal in interpersonal relationships. Results revealed that emotional disclosure writing and placebo disclosure writing groups decreased in interpersonal relations whilst the remaining groups (control, placebo drawing and emotional disclosure drawing) increased (Figure 25). A decrease in interpersonal relations is associated with an improvement in interpersonal relationships.

Results from the current study are consistent with other emotional disclosure writing studies which report improved functioning (e.g., Anderson et al., 2010). Due to the control group also reporting increased dysfunction on the OQ-45 interpersonal relations subscale, the change cannot be attributed to the drawing (placebo or emotional disclosure) intervention. Rather, it is suggested that writing (both emotional disclosure and placebo) may provide a more appropriate vehicle for resolving interpersonal relation stressors.

Alternatively, Barker and Berenbaum (2007) study reported that for interpersonal stressors, engaging in emotional processing and expression resulted in further interpersonal distress. They suggest that the interpersonal distress results in venting of emotions to support systems and may overwhelm the support system causing increased interpersonal distress. It is possible that this occurred for the drawing and control groups, but there is no data available to examine this further.

This study found no significant results in symptom distress, and social role between the groups, therefore rejecting the remaining OQ-45 subjective well-being hypotheses. The current study's findings for symptom distress (level of symptoms related to anxiety, and depression) and social role, are inconsistent with previous research that reports significant decreases in depressive and anxiety symptoms (e.g., Russ, 1992; Smyth, 1998) and improved social role (e.g., Graf, 2004).

The results of satisfaction with life, social role, and symptom distress, may possibly be explained by Frattaroli's (2006) meta-analysis. Frattaroli (2006) reported that studies with follow-up periods of less than one month had larger overall and

psychological health effect sizes than studies with follow-up periods of one month or more.

Indeed, Gillis et al., (2006) assert that the timing of accurately measuring the effects of disclosure is complex and variable across studies. However for other well-being outcomes (e.g., immune system functioning, physical symptoms), studies have recorded benefits within one month of disclosure, whilst other studies have found a delayed time for the same benefits being of three to four months but not earlier (Smyth et al., 1999; Kelley et al., 1997).

Given that the benefits of the intervention have a tendency to dissipate after a period of time, particularly regarding benefits related to psychological health is consistent with the idea of hedonic adaptation. This concept asserts that people's subjective well-being may have a tendency to return to baseline shortly after mood altering events or interventions (Suh, Diener, & Fujita, 1996). Therefore, in this study, the subjective well-being outcomes may have been susceptible to hedonic adaptation, and escaped capture by the six-month measuring time lag. This is further supported by the results from the short-term increase in positive affect that will be discussed later.

The results raise important considerations regarding the adaptive ability of the intervention. As stated in the introduction, the effectiveness and adaptive ability of a coping strategy depends on its ability to reduce immediate distress, as well as to contribute to more long-term outcomes such as psychological well-being or disease status (Snyder & Dinoff, 1999).

Interventions of this type may need to be repeated periodically to sustain their effectiveness and enhance their adaptability, and post intervention measures need to be

measured closer after intervention, perhaps monthly, to capture decreasing benefits and rate. Additionally, increasing the adaptation of such emotional disclosure interventions, it may be useful to adjoin other interventions.

Alternatively, should any benefits have occurred after completing either of the emotional disclosure interventions, they may not be sustainable for participants in their personal environments. Whilst there have been very few long-term follow up studies to test the duration of disclosure effects, Broderick et al's., (2005) study reported that the initial positive effects of written disclosure at four-months significantly weakens by ten-months to the level where there are no differences between control and experimental groups. The results from the current study alongside those of others (e.g., Gillis et al., 2006; Broderick et al., 2005) highlight the fragility of such strategies when transferred to the individual's typical environment and beyond the time frame of three-months often reported in written disclosure studies (Gillis et al., 2006).

Coping Outcomes

Research has demonstrated that emotional disclosure can impact differently on coping approaches (e.g., Lumley & Provenzano, 2003; Pennebaker, Colder, & Sharp, 1990). The current study hypothesized that there would significant differences between the emotional disclosure writing and drawing groups, compared to the placebo writing, placebo drawing, and the control groups on the 6-month follow-up measure of adaptive emotion-focused coping, maladaptive emotion-focused coping, and problem-focused coping, as assessed by the COPE scale (Carver, 1989). Additionally, it was hypothesized that there would be significant differences between

the emotional disclosure writing and the emotional disclosure drawing group compared to the placebo writing, placebo drawing, and control groups on the 6-month follow-up measure of emotional approach coping, as assessed by the EAC Scale (Stanton et al., 2000b).

Adaptive emotion-focused coping

Adaptive emotion-focused coping strategies include seeking social support for emotional reasons, positive interpretation and growth, acceptance, turning to religion, and humour. There were several significant differences between the intervention groups on adaptive emotion-focused coping scales. For the COPE subscale of religious coping, results indicated that all participants, in all disclosure groups, increased in religious coping. The control increased the least (Figure 27).

Given that all groups increased on religious coping, it can be presumed that simply completing the COPE inventory may have increased participant's awareness of such coping styles, and therefore reported more so on follow-up. This is regardless of whether a disclosure (placebo or emotional) was conducted or not, as the control group also improved on the religious coping scale. This is consistent with the mere measurement effect whereby the very act of measuring intentions or cognitions is sufficient to change behaviour (Godin & Sheeran, 2009).

The COPE subscale of positive reinterpretation and growth involves coping strategies that aim to manage the distress from emotions, rather than the actual stressor itself. The emotional disclosure drawing group significantly increased, whilst the emotional disclosure writing, placebo disclosure writing, and placebo disclosure

drawing remained relatively stable. The control group did not demonstrate change (Figure 26).

Previous studies of emotional disclosure via writing have reported increases in positive reinterpretation and growth (e.g., Ullrich & Lutendorf, 2002), which is in contrast to the results of the written disclosure group for this study. For the increase in the emotional disclosure drawing group, one could assume that this could be due to the act of drawing and producing as a means to transform distress into something productive and resolved (i.e., a drawing; see Pynoos & Eth, 1985). This study found no significant results for the COPE subscales of humour, acceptance, and seeking social support for emotional reasons.

Maladaptive emotion-focused coping

Maladaptive emotion-focused coping strategies include denial, mental disengagement, focusing on and venting emotions, and substance use. For the COPE subscale of substance use, results indicate that emotional disclosure drawing, control, placebo writing and placebo drawing decreased in substance use, whilst the emotional disclosure writing group increased (Figure 29).

Substance use is often triggered by the need to down-regulate negative emotions (see; Cooper, Frone, Russell, & Mudar, 1995; Stasiewicz & Maisto, 1993). It has been reported in the current study that participants in the emotional disclosure writing group increased in negative affect directly after disclosure. The negative affect increase may have inadvertently heightened the written emotional disclosure groups need to regulate negative affect using a maladaptive coping strategy.

The COPE subscale of mental disengagement involves strategies that serve to distract the person from thinking about the goal with which the stressor is interfering. Strategies include using distraction, daydreaming, escaping through sleep, or escape by immersion in TV. The results obtained from this study reveal that participants in the emotional disclosure drawing group showed a significant decrease in mental disengagement and those in the emotional disclosure writing group reported a significant increase in mental disengagement. The control, placebo drawing, and placebo writing remained relatively stable (Figure 28).

Although disengaging from a goal is sometimes a highly adaptive response if resources do not suffice to resolve the stressor (cf. Klinger, 1975), this response often impedes adaptive coping (e.g., Aldwin & Revenson, 1987; Billings & Moos, 1984; Cronkite & Moos, 1984; Wills, 1986). Longitudinal studies have shown that coping strategies such as disengagement and denial, sustain and increase levels of anxiety and depression (Aldwin & Revenson, 1987; Bolger, 1990; Felton & Revenson, 1984; Miller et al., 1985; Rippetoe & Rogers, 1987).

It can be proposed that the differences in the disclosure groups can again be attributed to different effects of the emotion regulation exercises. Increases in negative for the emotional disclosure writing groups may have resulted in them opting for a maladaptive coping strategy. Whereas, increases in positive affect and decreases in negative affect for the emotional disclosure drawing group may have influenced them to reduce their use of maladaptive coping strategies in favour of adaptive coping. Additionally, the cognitive and written component of written emotional disclosure may increase an individuals' mental engagement with a stressor, and emotional

disclosure drawing doing the opposite. This study found no significant results for the remaining maladaptive emotion-focused COPE subscales of focusing on and venting of emotions, and behavioural disengagement.

Problem-focused coping

Problem-focused coping strategies include active coping, planning, suppression of competing activities, restraint, and seeking social support for instrumental reasons. Active coping is the process of taking steps to try to remove the stressor or to ameliorate its effects. Strategies include initiating direct action, increasing one's efforts, and trying to execute a coping attempt in a stepwise fashion. Results from this study demonstrated the emotional disclosure drawing group significantly increased, whilst the placebo disclosure writing group decreased slightly, the control group also slightly increased. All other groups remained relatively stable in active coping (Figure 30).

Further differences between groups were found within the COPE planning subscale whereby the emotional disclosure drawing group increased in planning more than other groups, as all other groups remained relatively stable (Figure 32). Planning is thinking about how to cope with a stressor and involves coming up with action strategies, thinking about what steps to take and how best to handle the problem. This activity is clearly problem-focused, but it differs conceptually from executing a problem-focused action. It is proposed that the differences between groups whereby emotional disclosure drawing increased on the problem-focused subscales of active coping, and planning is attributed to the notion that having increased in positive affect post disclosure, that this may then encourage adaptive and problem-focused coping

strategies.

For the COPE subscale of seeking instrumental social support, there was an overall significant effect of experimental group with the highest levels of seeking social support in the emotional disclosure drawing group. Previous literature investigating the social integration model, has reported that written emotional disclosure participants report increases in socially supportive behaviours from family and friends after emotional disclosure (e.g., Heffner, 2002). It may be that participants in this study also received and pursued such behaviours and benefits simply by completing the assessments, as a mere measurement effect (Godin & Sheeran, 2009).

For the COPE subscale of restraint, all groups decreased in restraint, aside from the control group, which remained relatively stable (Figure 31). Restraint involves holding back on coping behaviours until they can be of use. High levels of restraint are associated with maladaptive outcomes such as higher levels of substance use (Khaylis et al., 2009), anxiety (Geirdal & Dahl, 2008)., and depression (Lode et al., 2009). Results from this study suggest that any form of disclosure (emotional and placebo) produce decreases in restraint coping. This study found no significant results for the COPE subscale of suppression of competing activities.

In summary, increases in problem-focused coping for the emotional disclosure groups may be attributed to the idea that problem-focused coping is a variation of emotion-focused coping (Scheier et al., 1986). This is proposed due to the idea that interventions that increase emotional processing and expression (e.g., adaptive emotion-focused coping strategies) clear the way for problem-solving and problem-focused strategies to be implemented. Therefore, they are closely tied to one another.

Emotional approach coping

For emotional approach coping, there was an overall significant main effect of group, with emotional disclosure drawing reporting the highest levels of emotional approach coping. There is scarce research specifically examining the relationship between emotional disclosure methods and emotional approach coping, although recent studies are reporting emotional approach coping as a moderator for written emotional disclosure (e.g., Kraft et al., 2008). In terms of emotional disclosure drawing, the results from the current study are consistent with Puig et al.,'s (2006) study, where participants increased in emotional approach coping after completing creative art making. However, Puig et al.,'s (2006) study does not account for changes by the remaining groups. It may be that again, the mere measurement effect occurred (Godin & Sheeran, 2009).

In summary, the emotional disclosure drawing group demonstrated highest levels of change on the emotion-focused maladaptive COPE subscales of mental disengagement and substance use (significant decreases), emotion-focused adaptive COPE subscales of positive reinterpretation and growth (significant increases), and problem-focused COPE subscales of active coping, planning, and seeking social support for instrumental reasons (significant increases).

There were also changes reported for COPE subscales of religious coping (all groups), and restraint (all groups decreased aside from control group). For the emotional disclosure group significantly increased in mental disengagement. All groups increased on the emotional approach coping scale, with the emotional disclosure drawing group reporting the highest levels. It has been speculated that these

changes may have occurred due to the changes in affect produced from the emotional disclosure activities, consistent with findings by Hansdottir et al., (2004) and Zautra et al., (1995). This next section will discuss the results of the emotional disclosure writing and drawing as emotion regulation strategies.

Emotion Regulation

Emotion regulation refers to the attempt that individuals make to alter their emotional experience. It is a key process in successful coping, and strategies that facilitate emotion regulation can result in increasing well-being. For example, increasing positive affect can promote resilience (e.g., Strand et al., 2006). This study measured emotion regulation using the PANAS-X (Watson & Clark, 1991) prior to, and immediately after each of the disclosure sessions (including placebo disclosure). This was to assess the degree of change in affect that happened during the disclosure sessions. This was conducted once per week, for four weeks, unlike the well-being outcomes, which were measure prior to disclosure and 6-months following the fourth week of the disclosure exercise.

The aim of the PANAS-X and disclosure exercise was to assess changes to emotion regulation during treatment between experimental groups. PANAS-X measures negative affect, positive affect, and other affective states. The change variables were computed by subtracting pre-measures from post-measures at each disclosure session.

It was hypothesized that there would be significant differences between the emotional disclosure groups and the control as well as placebo disclosure groups on change measures of positive affect as measured by the PANAS-X subscales of positive affect, basic positive emotion scale, joviality, self-assurance, and

attentiveness. For the emotional disclosure drawing group, there were significant increases in positive affect, for both the positive affect scale and the basic emotion rating scale (Figure 33 and Figure 34).

Furthermore, the emotional disclosure drawing had significantly larger increases in positive affect and basic positive emotion during the third week compared to the emotional disclosure writing group. For the PANAS-X scale of joviality, the emotional disclosure drawing group gained the largest increases in joviality over all four weeks (Figure 35). Emotional disclosure drawing had significantly larger increases in joviality during the third week compared to the emotional disclosure writing. This study found no significant results for the subscale of attentiveness.

The results suggest that when investigating the immediate impact of the emotional disclosure intervention on positive affect, that emotional disclosure drawing increases positive emotional experience more so than emotional disclosure writing. The results from this study regarding emotional disclosure drawing are supported by previous research on drawing and outcomes, for example Freudenheim (2005) who found that drawing assists in repairing mood following exposure to distressing stimuli.

Conversely, the results regarding positive affect and emotional disclosure writing contrast a study by Burton and King (2004) that reported that writing increased positive mood. However there is scarce research investigating the effect of emotional disclosure writing on positive affect (as opposed to negative affect) and that the study by Burton and King (2002) focused on solely writing about topics that were regarded as intensely positive experiences. This focus of topic may have contributed as a

mediator of mood and thereby produced enhanced levels of positive affect (Burton & King, 2002).

A further hypothesis was that there are significant differences between the emotional disclosure groups and the control as well as placebo disclosure groups on change measures of negative affect as measured by the PANAS-X subscales of negative affect, basic negative emotions scale, fear, hostility, guilt, and sadness. For the PANAS-X subscale of negative affect and basic negative emotion scale, there were significant increases in negative affect in emotional disclosure writing group, whilst the emotional disclosure drawing group decreased (Figure 36 and 37). Emotional disclosure drawing had significantly larger decreases in negative affect during the fourth week compared to the emotional disclosure writing group. The effect size of d = 1.16 indicates a large effect according to Cohen (1988).

Results for the subscale of fear demonstrated that fear increases the most in the emotional disclosure writing group, particularly in the first two weeks. However, there are no significant differences in the remaining weeks between groups (Figure 38). This finding regarding fear is consistent with previous research (e.g., Norman et al., 2004). For the subscale of hostility, results suggested that emotional disclosure writing had significantly higher increases in hostility than all other groups over time, and emotional disclosure drawing had significantly larger decreases in hostility over time (Figure 39). The effect size of d = .99 for the fourth week of disclosure, between emotional disclosure writing and drawing, indicates a large effect according to Cohen (1988).

For the PANAS-X subscales of guilt and sadness, there was a main effect for group, which is likely due to the consistent differences between emotional disclosure drawing (decreases in guilt and sadness) and emotional disclosure writing (increases in guilt and sadness) (Figure 40 and 41). There was an effect of $d = 1.1$ for sadness, indicating a large effect (Cohen, 1988) between the two emotional disclosure groups. The reported increases in guilt for written emotional disclosure is consistent with previous research (e.g., Norman et al., 2004).

Overall, these results for negative affect PANAS-X scales are consistent with previous research that has reported an increase in negative affect directly after the intervention for emotional disclosure writing (e.g., Kloss & Lisman, 2002). A number of explanations have been suggested, including the idea that written emotional disclosure about upsetting events re-traumatizes participants (Honos-Webb et al., 2000). Additionally, results report a decrease in negative affect for the emotional disclosure drawing group. This is also consistent with previous research (e.g., art making reducing negative affect; Bell & Robbins, 2007; Puig et al., 2006) although few theories have been presented as to why this might be the case.

The final hypothesis for the investigation of the emotional disclosure methods of drawing and writing, predicted that there are significant differences between the emotional disclosure groups and the control as well as placebo disclosure groups on pre and post measures of other affects, as measured by the PANAS-X subscales of other affective states, shyness, fatigue, serenity, and surprise.

This study found no significant results for the PANAS-X scale of other affective states. For shyness, there was a similar effect to that of guilt and sadness,

indicating that the largest changes occur for groups in the first two weeks (Figure 42). For the PANAS-X subscales of fatigue and serenity, there were increases for all groups, with largest increases in emotional disclosure drawing compared in particular to emotional disclosure writing (Figure 43 and 44). This study found no significant results for the PANAS-X subscale of surprise.

In summary, it appears that there are significant increases for the emotional disclosure drawing group for positive affect. For negative affect, there is a reported increase for the emotional disclosure writing group, and a decrease for the emotional disclosure drawing group. For other affective states, there are significant changes on the subscales of shyness, serenity, and fatigue.

The results from this study suggest that within these different formats and approaches to emotional disclosure, there are diversities in the processing of positive and negative affect, and pose questions about which methods are most suited given the type of affect experienced. For example, it can be suggested that emotional disclosure through drawing with its visual expression and representation decreases negative affect, but when it comes to positive affect, rather than reduce it, it may increase it. Conversely, for negative affect, emotional disclosure through writing increases it.

It was suggested that emotional disclosure drawing may serve as a medium for individuals to increase awareness and understanding of their emotional experience; as a task that modulates the intensity of negative emotions; and as a medium to monitor or alter the presence of emotions. Whilst it has been consistently reported that writing can serve as a useful mechanism of disclosing, it appears that drawing also acts as an effective vehicle for such disclosure. The findings of this study also suggest that the

balance of method in disclosing emotions, both positive and negative, may be a very important factor in terms of immediate effects, with writing producing increases in negative emotions and drawing producing increases of positive emotions directly after the emotional disclosure.

Furthermore, alongside Kerner and Fitzpatrick's (2007) proposal that integrating positive emotion words into writing excerpts may act as a regulatory measure that buffers the impact of negative emotions, it can also be said that using emotional disclosure drawing in conjunction with or instead of emotional disclosure writing may also potentially act a as resilience mechanism.

Building on the idea that emotion regulation affects the use of coping strategies, the results of this study suggest that increases in positive affect could trigger the use of adaptive emotion-focused and problem-focused coping strategies. This is in line with Zautra et al., (1995) and Hansdottir et al., (2004) research that suggested that the presence of positive and negative affect influences the active choice of adaptive or maladaptive coping strategies and resulting outcomes.

Whilst there are clear differences in coping strategies between groups, it is important to note that this study reported very limited evidence of increases in the well-being outcomes of satisfaction with life, social role, and symptom distress for any of the disclosure groups, regardless of changes in affective and coping experience. Ultimately, it may be using many different coping strategies, which target positive and negative affect differently, and that are flexible in accommodating changing stressors, that may produce better adjustment and outcomes (e.g., Folkman, 1984; Punamaki et al., 1997).

Implications for the use of Emotional Disclosure Drawing

The results from this study found that those in the emotional disclosure drawing group increased in positive affect, when compared to other disclosure groups such as written emotional disclosure and placebo writing and drawing. Further analysis of coping outcomes demonstrated that those in the emotional disclosure drawing group increased in the employment of adaptive coping strategies (e.g., planning, and seeking social support for instrumental reasons) and decreased in the use of maladaptive coping strategies (e.g., substance use, and mental disengagement).

Aside from exploring the use of emotional disclosure drawing as an emotion regulation technique, there was a further reason to investigate its use. In particular, there are an extremely limited number of studies that have explored the efficacy of drawing. Studies that do exist are fraught with confounding methodological issues such as contaminating the drawing medium with other expressive formats (e.g., verbalization, writing), maturation, selection bias, regression to the mean, expectancy effects, and improvements due to external factors of the study (Bell & Robbins, 2007). Controlled randomized trials are seldom performed.

By exploring the use of emotional disclosure drawing without the confounding effect of other mediums, this study provided the opportunity to investigate the use of drawing about emotions as an individual disclosure technique. This is a particularly important area to investigate given the use of drawing in clinical contexts, without the validation of its effectiveness or establishment of its limitations.

Implications for Populations

A key limitation of written emotional disclosure is the need for a high level of writing ability and written expression for it to be effective (Bray et al., 2003). Consequently, this excludes populations who present with poor literacy levels (Carpenter, 2001). On the other hand, those with professional writing experience, or who are very skilled at writing, may also be disadvantaged with such strategies as they may be more focused on producing a well-written product than in exploring the underlying emotional processes (Schmidt, et al., 2002). Results from this study support emotional disclosure drawing as an emotion regulation strategy.

Therefore, the use of drawing as an emotional disclosure strategy may provide a useful practical alternative for such populations, particularly given that there is no requirement to have a minimal literacy level or educational level. Currently, there is far too little known about how emotional disclosure drawing works, however results from the current study suggest differences in emotional processing.

It is proposed that emotional disclosure drawing operates without the overt cognitive component of constructing a well structured sentence to express an emotional experience, thereby allowing a pathway focused more so on expressing emotion (e.g., simply drawing a line that represents an emotion). This in turn, may lend emotional disclosure drawing as a useful technique for adults with literacy difficulties, and for those with cognitive difficulties.

It is unclear whether emotional disclosure drawing would be useful for those who exhibit alexithymia. Whilst there is some support for the use of art therapy and drawing (e.g., Heiman, Stranad, Weiland, & Wise, 1994; Hornyack & Baker, 1989)

for such populations, it is still undetermined whether the use of drawing as a specific emotion regulation strategy is appropriate. Particularly as there are deficits in reduced affective awareness, shown as difficulty in identifying feelings and in describing feelings to others (Bagby, Taylor, Parker, & Dickens, 2006). Further recommendations for clinical populations are inconclusive as the current study assesses a community sample.

Implications for Clinical Practice

It is first important to emphasize that this particular study employed a community sample, not a clinical sample. Additionally, the mechanisms regarding the effectiveness of emotional disclosure writing, and drawing for that matter, are not well understood. Therefore, it is certainly too early to recommend that clinicians incorporate emotional disclosure drawing into their treatment regime. However, results from this study certainly can begin to ignite thought into the implications that would be involved when viewing emotional disclosure drawing and writing in a clinical context.

In a broad context, using the mediums of drawing and writing might serve different purposes depending on the clinical problem and the client. In some circumstances, it may help motivate the individual to make a commitment to therapy by focusing on priorities and goal setting (Lepore et al., 2002). In other circumstances, it may help the individual reduce negative affect, improve positive affect, and cope more effectively. Other practical concerns involve whether there should be discussion of the writing or drawing output in therapy. It is important to understand how either option regarding outputs would affect therapeutic outcomes and the therapeutic

alliance. These clinical considerations and implications highlight the need for further investigations to be conducted.

Limitations of the Present Study

Several limitations were evident in the study, including the reporting that all variables significantly deviated from normal distribution, as indicated by a significant Kolmogorov-Smirnov test. This might affect the robustness of the analyses however, the analyses employed are relatively robust to minor deviations from normality, and the K-S test tends to become significant in medium sample sizes even if deviations from normal distribution are only marginal (Tabachnick & Fidell, 2001).

Following on from analyses limitations, it is important to acknowledge that there were pre and post differences on the PANAS-X between groups. Groups were not matched on levels of affect prior to the disclosure exercises, thus interpreting changes during the PANAS-X is compromised due to the potential for unmatched groups to score differently on the dependent variables (affective states).

The use of self-report measures also presented as a limitation in the study. Self-report measures are subject to common method variance, that is, respondents are more likely to respond positively to items if they are satisfied with the investigated area. Some participants may have approached their randomly assigned activity of emotional disclosure writing or drawing with a positive or negative attitude depending on their prior experience with the medium, thus affecting responses on the post intervention questionnaire. Although participants in this study were randomized to conditions, such effects cannot be ruled out in smaller-scale studies with opportunistic assessment such as the present one.

A further limitation of using self-report measures is that they are subject to social desirability. This is particularly important to this study given that participants were instructed to return emotional disclosure drawings and writings to the researcher, a potential audience to their expressive outputs. This has been found to be an important influencing factor in previous studies.

For example, Frattaroli's (2006) meta-analysis reported that having an audience (expectation that the researcher would read the disclosure) was found to be a moderator for psychological health outcomes. In particular, studies have found that participants with an audience improved more on mood, physical symptoms, and illness related activity restrictions (Raval, 2000). It may be beneficial for future research to explore such methodologies and results.

Another limitation of this study is the potential for the participants to expect improvements in well-being simply by engaging in the disclosure tasks itself, consequently producing a bias, and thereby confounding results. Langens and Schuler (2007) assert that expectancies are a key ingredient in many specific affect regulation strategies. Many studies have reported that emotion regulation expectancies are related to changes in depressive mood and physical symptoms, being the higher the level the expectancy that an individual will be able to regulate their mood, the less depressive and physical symptoms are later reported (Catanzaro & Greenwood, 1994; Catanzaro, Wasch, Kirsch, & Mearns, 2000).

Results from the disclosure intervention may have been subject to such expectancies. Additionally, participants may have had different expectancies for the different measures of disclosure, which may have also confounded results (e.g., that

drawing will be more effective than writing, or that disclosure groups would be more effective than the control group), and that there were demand characteristics at play. A placebo group for drawing and writing was implemented in wave two to address this limitation of demand characteristics and to reduce the likelihood of a 'placebo effect' in the emotional disclosure groups. Despite this, expectancies and demand characteristics may have inflated results.

This study may have experienced further limitations and effects to the generalisability of results through the wording or administration of the disclosure instructions. Participants were given a simple and broad instruction "draw (or write) about how you are currently feeling" with no guidance or instructions of what materials to use (e.g., paint, pen) or how to approach the activity (e.g., "firstly choose a colour that represents your emotion and then use it to make a mark on the paper that also represents your current emotion"). Given the methodological design of the study whereby participants completed the weekly activity at home, there was little opportunity to ask for clarification or guidance on approaching the task, merely the only resource they had was a overly basic typed instruction on a blank piece of paper.

It is possible that without direct and concrete examples, participants may be overwhelmed or anxious by the experimental disclosure process, and potentially have influenced reported results on the PANAS-X inventory of emotional experience. For example, drawing participants may have experienced increased anxiety pre intervention and reported this on the pre PANAS-X survey, then proceeded to complete the activity, and then felt relief at having completed the activity and again

reported this relief on the post PANAS-X survey. Thus, results could reflect this process more so than the actual effectiveness of the drawing intervention.

Finally, the use of a non-clinical population was a key limitation to the present study as needs for emotional disclosure might be lower for community samples than clinical samples. Despite this, the use of a community sample in the current study offered a more conservative approach to test emotional disclosure writing and emotional disclosure drawing at baseline levels.

Future Research Directions

The current study presents a number of directions for future research. First, there are a very limited number of studies that have investigated the use of drawing in a randomized controlled trial with emotional disclosure writing. Therefore, there needs to be further studies that explore this comparison and also replicate this study with additional improvements in the area of the study's identified limitations.

Of particular interest for future research would be investigating emotional disclosure drawing with populations identified to demonstrate difficulty in emotional expression and processing, such as those with alexithymia. Furthermore, given the large amount of research of this nature conducted on trauma populations, it would be useful to replicate such studies with the additional component of emotional disclosure drawing to explore different effects on positive and negative affect following disclosure. As previously discussed, it may be useful to also investigate emotional disclosure drawing with populations who demonstrate difficulties with literacy or communication (e.g., children), to determine it's effectiveness as an alternate emotion regulation strategy.

Regarding well-being outcomes, it is important to investigate both individual characteristics and environmental factors that may assist in sustaining any gains made by engaging in the emotion regulation interventions. Results from this study support the use of both emotional disclosure methods in the immediate circumstances as an emotion regulation strategy. Future research could investigate which long-term personal and environmental factors support such immediate changes over a longer period of time and explore sustainable strategies, individual characteristics, and environments using a multi modal approach.

Future research could also explore design implications, such as differing instructions, disclosure environment, audience, frequency and duration that provides best efficacy, and alternate dependent variables such as physiological functioning. Studies in the literature have varied in the degree to which disclosure instructions included directed questions and specific examples; some researchers have given minimal guidance "Write about one of the most traumatic and upsetting experiences of your whole life" (Booth et al., 1997, p. 24). Whereas other researchers have given directed questions such as "How did you feel then, at the time of the experience? How do you feel now about the experience?" (Barry & Singer, 2001, p. 291). Frattaroli's (2006) meta-analysis found that studies in which participants were given directed questions or specific examples of what to disclose had larger overall and psychological health effect sizes (r = .13). These findings support the notion that specificity of experimental disclosure instructions may play an important role to overall results.

In terms of measuring outcomes as previously discussed, studies with follow up periods of less than one-month had larger overall and psychological health effect sizes than studies with follow up periods of one-month or more, as was the case with this study (Frattaroli, 2006). A major limitation of this study was the time lag of six-months before measuring the well-being outcomes, resulting in crucial data potentially being lost. Future interventions of this type may need to be repeated periodically to sustain their effectiveness, and follow-up intervention measures need to be assessed closer after the intervention (e.g., one-month). Furthermore, it would be useful to investigate any mediating effects (e.g., mediation analysis) of the disclosure interventions on coping and well-being outcomes.

Major Contributions and Conclusion

The ability to regulate emotions is vital to the likelihood that coping will be successful. Emotional disclosure writing is one such emotion regulation technique, and has much research supporting its efficacy on well-being outcomes. Alternative emotional disclosure techniques have been seldom investigated. This study is one of the first to investigate emotional disclosure drawing as an alternative and specific emotion regulation strategy to emotional disclosure writing, particularly on positive and negative affect.

This study also differed from other emotional disclosure studies by utilizing a population of community members. Previous written emotional disclosure studies have tended to use populations with specific characteristics such as undergraduate university students, or those with trauma histories. The use of a community sample enabled the

effects of drawing and written emotional disclosure to be investigated without the potential for such characteristics to confound results.

This study investigated the use of emotional disclosure drawing and emotional disclosure writing as emotion regulation strategies on affect and well-being outcomes, in a controlled randomized trial. Contrary to extensive previous research, there were no significant results attributed to the intervention for satisfaction with life. For the Outcome Questionnaire-45, all results were non significant except for the subscale of interpersonal relations whereby the emotional disclosure writing and placebo writing groups reported increased functioning. The remaining groups reported a decrease in functioning.

In terms of coping, the emotional disclosure drawing group increased in several adaptive emotion-focused coping and problem-focused coping strategies and decreased in several maladaptive emotion-focused coping strategies. The emotional disclosure writing group increased in several maladaptive scales. All groups increased in the emotional approach coping scale.

Following the emotional disclosure intervention, participants in the emotional disclosure drawing group experienced a significant increase in positive affect and a decrease in negative affect. This is in direct contrast to emotional disclosure writing that increased in negative affect.

A key limitation of this study was the six-month time period of measuring well-being outcomes, which may have contributed to limited changes in well-being outcomes. Future research directions include replicating this study with other populations to account for the limitations that emotional disclosure writing poses. In

conclusion, emotional disclosure drawing may serve to be an alternate and supportive strategy to emotional disclosure writing in emotion regulation, and the outcomes of coping.

References

Aldwin, C., & Revenson, T. A. (1987). Does coping help? A re-examination of the relation between coping and mental health. *Journal of Personality and Social Psychology, 53,* 337-348.

Alfonso, V. C., Allison, D. B. Radar. D. E., & Gorman, B. S. (1996). *The extended satisfaction with life scale. Development and psychometric properties. Social Indicators Research, 38*, 275-301.

Almagor, M., & Ben-Porath, Y. (1989). The two-factor model of self reported mood: A cross-cultural replication. *Journal of Personality Assessment, 52,* 10-21.

Anderson, T., Guajardo, J. F., Luthra, R., & Edwrads, K. M. (2010). Effects of clinician-assisted emotional disclosure for sexual assault survivors: A pilot study. *Journal of Interpersonal Violence, 25* (6), 1113-1131.

Appleton, V. (2001). Avenues of hope: Art therapy and the resolution of trauma. *Art Therapy, 18,* 6-13.

Austenfeld, J. L., & Stanton, A. L. (2004). Coping through emotional approach: A new look at emotion, coping, and health related outcomes. *Journal of Personality, 72* (6), 1335-1364.

Bagby, R. M., Taylor, G. J., Parker, J. D. A., & Dickens, S. E. (2006). The Development of the Toronto Structured Interview for Alexithymia: Item Selection, Factor Structure, Reliability and Concurrent Validity. *Psychotherapy and Psychosomatics, 75* (1), 25-39.

Baikie, K. A. (2008). Who does expressive writing work for? Examination of alexithymia, splitting, and repressive coping style as moderators of the expressive writing paradigm. *British Journal of Health Psychology, 13*, 61-66.

Baker, J. P., & Berenbaum, H. (2007). Emotional approach and problem-focused coping: A comparison of potentially adaptive strategies. *Cognition and Emotion, 21* (1), 95-118.

Barclay, L. J., & Skarlicki, D. P. (2009). Healing the wounds of organizational injustice: Examining the benefits of expressive writing. *Journal of Applied Psychology, 94* (2), 511-523.

Barry, L. M., & Singer, G. H. S. (2001). Reducing maternal psychological stress after the NICU experience through journal writing. *Journal of Early Intervention, 24,* 287-297.

Batten, S. V., Follette, V. M., Hall, M. L. R., & Palm, K. M. (2002). Physical and psychological effects of written disclosure among sexual abuse survivors. *Behavior Therapy, 33,* 107-122.

Bell, C. E., & Robbins, S. J. (2007). Effect of art production on negative mood: A randomized, controlled trial. *Art Therapy: Journal of the American Art Therapy Association, 24* (2), 71-75.

Billings, A. G., & Moos, R. H. (1984). Coping, stress, and social resources among adults with unipolar depression. *Journal of Personality and Social Psychology, 46,* 877-891.

Bird, G. F. (1992). Programmed writing as a method for increasing self-esteem, self disclosure, and coping skills (Doctoral dissertation, Georgia State University, 1992). *Dissertation Abstracts International, 53*, 2536.

Blake, D. D., Cook, J. D., & Keane, T. M. (1992). Posttraumatic stress disorder and coping in veterans who are seeking medical treatment. *Journal of Clinical Psychology, 48*, 695-703.

Bodor, N. Z. (2002). *The health effects of emotional disclosure for individuals with Type 1 diabetes.* Unpublished doctoral dissertation. University of Texas at Austin.

Bolger, N. (1990). Coping as a personality process: A prospective study. *Journal of Personality and Social Psychology, 59,* 525-537.

Booth, R. J., Petrie, K. J., & Pennebaker, J. W. (1997). Changes in circulating lymphocyte numbers following emotional disclosure: Evidence of buffering? *Stress Medicine, 13*, 23-29.

Bootzin, R. R. (1997). Examining the theory and clinical utility of writing about emotional experience. *Psychological Science, 8* (3), 167-169.

Bonanno, G. A. (2004). Loss, traumas, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist, 59*, 20-28.

Bray, M. A., Theadore, L. A., Patwa, S. S., Margiano, S. G., Alric, J. M., & Peck, H. L. (2003). Written emotional expression as an intervention for asthma. *Psychology in Schools, 40* (2), 193-207.

Broderick, J. E., Junghaenel, D. U., & Schwartz, J. E. (2005). Written emotional expression produces health benefits in fibromyalgia patients. *Psychosomatic Medicine, 67*, 326-334.

Broderick, J. E., Stone, A. A., Smyth, J. M., & Kaell, A. T. (2004). The feasibility and effectiveness of an expressive writing intervention for rheumatoid arthritis via home based video taped instructions. *Annals of Behavioral Medicine, 27*, 50-59.

Burton, C. M., & King, L. A. (2004). The health benefits of writing about intensely positive experiences. *Journal of Research in Personality, 38,* 150-163.

Cameron, L. D., & Nicholls, G. (1998). Expression of stressful experiences through writing: Effects of a self-regulation manipulation for pessimists and optimists. *Health Psychology, 17*, 84-92.

Campbell, N. B. (2003). Emotional disclosure through writing: An intervention to facilitate adjustment to having a child with autism (Doctoral dissertation, University of Mississippi, 2003). *Dissertation Abstracts International, 64*, 2380.

Carpenter, S. (2001). A new reason for keeping a diary. *Monitor on Psychology, 32,* 68-70.

Carver, C. S., & Scheier, M. F. (1982). Control theory: A useful conceptual framework for personality-social, clinical, and health psychology. *Psychological Bulletin, 92*, 111-135.

Carver, C. S., Scheier, M. F., & Kumari Weintraub, J. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology, 56* (2), 267-283.

Catanzaro, S. J., & Greenwood, G. (1994). Expectancies for negative mood regulation, coping, and dysphoria among college students. *Journal of Counseling Psychology, 41*, 34-44.

Catanzaro, S. J., Wasch, H. H., Kirsch, I., & Mearns, J. (2000). Coping related expectancies and dispositions as prospective predictors of coping responses and symptoms. *Journal of Personality, 68*, 757-788.

Chan, K. M., & Horneffer, K. (2006). Emotional expression and psychological symptoms: A comparison of writing and drawing. *The Arts in Psychotherapy, 33*, 26-36.

Clark, L. A., & Watson, D. (1988). Mood and the mundane: Relations between daily life events and self reported mood. *Journal of Personality and Social Psychology, 54*, 296-308.

Clark, L. A., & Watson, D. (1990). *Predicting momentary mood from ordinary life events and personality.* Unpublished manuscript, Southern Methodist University, Dallas, TX.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Lawrence Earlbaum Associates.

Cooper, M. L., Frone, M. R., Russell, M., & Mudar, P. (1995). Drinking to regulate positive and negative emotions: A motivational model of alcohol use. *Journal of Personality and Social Psychology, 69* (5), 990-1005.

Corrigan, J. (2000). *The satisfaction with life scale. The centre for outcome measurement in brain injury*. http://www.tbims.org/combi/swls.

Cox, K. L., & Price, K. (1990). Breaking through: Incident drawings with adolescent substance abusers. *The Arts in Psychotherapy, 17,* 333-337.

Coyne, J. C., Aldwin, C., & Lazarus, R. S. (1981). Depression and coping in stressful episodes. *Journal of Abnormal Psychology, 90*, 439-447.

Cronkite, R. C., & Moos, R. H. (1984). The role of predisposing and moderating factors in the stress-illness relationship. *Journal of Health and Social Behavior, 25*, 372-393.

Crow, M. (2000). Physiological and health effects of writing about stress (Doctoral dissertation, Southern Methodist University, 2000). *Dissertation Abstracts International, 61*, 3316.

De Moor, C., Sterner, J., Hall. M., Warneke, C., Gilani, Z., Amato, R., et al. (2002). A pilot study of the effects of expressive writing on psychological and behavioural adjustment in patients enrolled in a Phase II trial of vaccine therapy for metastic renal cell carcinoma. *Health Psychology, 21*, 615-619.

Diener, E., Emmons, R., Larsen, J., Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality and Assessment, 49* (1), 71-75.

Earnhardt, J. L., Martz, D. M., Ballard, M. E., & Curtin, L. (2002). A writing intervention for negative body image: Pennebaker fails to surpass the placebo. *Journal of College Student Psychotherapy, 17*, 19-35.

Eisenberg, N., Fabes, R. A., Shepard, S. A., Murphy, B. C., Guthrie, I. K., Jones, S., Friedman, J., Poulin, R., & Maszk, P. (1997). Contemporaneous and longitudinal prediction of children's social functioning from regulation and emotionality. *Child Development, 68* (4), 642-664.

Ekman, P. (1971). Universals and cultural differences in facial expressions of emotions. In J. K. Cole (Ed.), *Nebraska Symposium on Motivation* (Vol 19, pp. 207- 283). Lincoln: University of Nebraska Press.

Ekman, P. (1992). An argument for basic emotions. *Cognition and Emotion, 6,* 169-200.

Ekman, P. (1994). All emotions are basic. In P. Ekman & R. J. Davidson (Eds.), *The nature of emotion: Fundamental questions* (pp. 15-19). New York: Oxford University Press.

Endler, N. S., & Parker, J. D. A. (1990). *Coping Inventory for Stressful Situations (CISS): Manual.* Toronto: Multi-Health Systems.

Felton, B. J., & Revenson, T. A. (1984). Coping with chronic illness: A study of illness controllability and the influence of coping strategies on psychological adjustment. *Journal of Consulting and Clinical Psychology, 52*, 343-353.

Fisher, B. M., Segal, D. L., & Coolidge, F. L. (2003). Assessment of coping in cognitively impaired older adults: A preliminary study. *Clinical Gerentologist, 26* (3/4), 3-12.

Folkman, S. (1984). Personal control and stress and coping processes: A theoretical analysis. *Journal of Personality and Social Psychology, 46*, 839-852.

Folkman, S., & Lazarus, R. S. (1988). *Ways of coping questionnaire.* Palo Alto, CA: Consulting Psychological Press.

Folkman, S., Lazarus, R. S., Dunkel-Schetter, C., DeLongis, A., & Gruen, R. J. (1986). Dynamics of a stressful encounter: Cognitive appraisal, coping, and encounter outcomes. *Journal of Personality and Social Psychology, 50*, 992-1003.

Folkman, S., & Moskowitz, J. T. (2004). Coping: Pitfalls and promise. *Annual Review of Psychology, 55*, 745-774.

Francis, M. E., & Pennebaker, J. W. (1992). Putting stress into words: The impact of writing on physiological, absentee, and self-reported emotional well-being measures. *Stress Management, 6,* 280-287.

Frattaroli, J. (2006). Experimental disclosure and its moderators: A meta-analysis. *Psychological Bulletin, 132* (6), 823-865.

Freudenheim, D. A. (2005). The effect of drawing on children's verbal expression of feelings. *Dissertation Abstracts International: Section B: The Sciences and Engineering, 65* (12-B), 6650.

Frijda, N. H. (1986). *The emotions.* Cambridge, UK: Cambridge University Press.

Frijda, N. H. (1993). Moods, emotion episodes, and emotions. In M. Lewis & J. Haviland (Eds.), *Handbook of emotions* (pp. 381-403). New York: Guilford.

Frisina, P. G., Borod, J. C., & Lepore, S. J. (2004). A meta-analysis of the effects of written emotional disclosure on the health outcomes in clinical populations. *Journal of Nervous and Mental Disease, 192*, 629-634.

Gallagher, P., & MacLachlan, M. (2002). Evaluating a written emotional disclosure homework intervention for lower-limb amputees. *Archives of Physical Medicine and Rehabilitation, 83*, 1464-1466.

Geirdal, A. O., & Dahl, A. A. (2008). The relationship between coping strategies and anxiety in women from families with familial breast–ovarian cancer in the absence of demonstrated mutations. *Psycho-Oncology, 17* (1), 49-57.

Gidron, Y., Duncan, E., Lazar, A., Biderman, A., Tandeter, H., & Shvartzman, P. (2002). Effects of guided written disclosure of stressful experiences on clinic visits and symptoms in frequent clinic attenders. *Family Practice, 19*, 161-166.

Gillis, M. E., Lumley, M. A., Mosley-Williams, A., Leisen, J. C. C., & Roehrs, T. (2006). The health effects of at-home written emotional disclosure in fibromyalgia: A randomized trial. *Annals of Behavioral Medicine, 32* (2), 135-146.

Godin, G., & Sheeran, P. (2009). A mere measurement effect for anticipated regret: Impacts on cervical screening attendance. *British Journal of Social Psychology, 48* (2), 221-236.

Graf, M. C. (2004). *Written emotional disclosure: What are the benefits of expressive writing in psychotherapy.* Doctoral Dissertation. http://dspace.library.drexel.edu/retrieve/2216/graf_maria_thesis.pdf

Graf, M. C., Gaudiano, B. A., & Geller, P. A. (2008). Written emotional disclosure: A controlled study of the benefits of expressive writing homework in outpatient psychotherapy. *Psychotherapy Research, 18* (4), 389-399.

Greenberg, M. A., & Stone, A. A. (1992). Emotional disclosure about traumas and its relation to health: Effects of previous disclosure and trauma severity. *Journal of Personality and Social Psychology, 63*, 75-84.

Greenberg, M. A., Wortman, C. B., & Stone, A. A. (1996). Emotional expression and physical health: Revising traumatic memories or fostering self-regulation? *Journal of Personality and Social Psychology, 71*, 588- 602.

Gross, J. J. (1998a). Antecedent and response focused emotion regulation: Divergent consequences for experience, expression, and physiology. *Journal of Personality and Social Psychology, 74*, 224- 237.

Gross, J. J. (1998b). The emerging field of emotion regulation: An integrative review. *Review of General Psychology, 2*, 271-299.

Gross, J. J., & Levenson, R. W. (1993). Emotional suppression: Physiology self report and expressive behavior. *Journal of Personality and Social Psychology, 64*, 970-986.

Gross, J. J., & Levenson, R. W. (1997). Hiding feelings: The acute effects of inhibiting negative and positive emotion. *Journal of Abnormal Psychology, 106*, 95-86.

Gross, J. J., & Munoz, R. F. (1995). Emotion regulation and mental health. *Clinical Psychology: Science and Practice, 2*, 151-164.

Guyton, A. C., & Hall, J. E. (1997). *Human physiology and mechanisms of Disease.* (6th ed.). Philadelphia: W.B. Saunders Company.

Hansdottir, I., Malcarne, V. L., Furst, D. E., Weisman, M. H., & Clements, P. J. (2004). Relationships of positive and negative affect to coping and functional outcomes in systemic sclerosis. *Cognitive Therapy and Research, 28* (5), 593-610.

Heffner, K. L. (2002). *A biosocial approach to the study of trauma disclosure and health* (Doctoral dissertation, University of Nevada, Reno, 2002). *Dissertation Abstracts International, 62* (8), 3848B.

Heiman, M., Strnad, D., Weiland, W., & Wise, T. N. (1994). Art therapy and alexithymia. *Art Therapy, 11*, 143-146.

Honos-Webb, L., Harrick, E. A., Stiles, W. B., & Park, C. L. (2000). Assimilation of traumatic experiences and physical-health outcomes: Cautions for the

Pennebaker paradigm. *Psychotherapy: Theory, Research, Practice, and Training, 37*, 307-314.

Hornyack, L. M., Baker, E. K. (1989). Introduction. In L. M. Hornyack & E. K. Baker (Eds.), *Experiential therapies for eating disorders* (pp. 1-10). New York: Guilford Press.

Horowitz, M. (1976). *Stress response syndromes*. New York: Jason Aroson.

Izard, C. E. (1972). *Patterns of emotions: A new analysis of anxiety and depression.* New York: Academic Press.

Izard, C. E. (1993). Organizational and motivational functions of discrete emotions. In M. Lewis & J. Haviland (Eds.), *Handbook of emotions* (pp. 631-641). New York: Guilford Press.

Jacobson, N. S., & Baucom, D. H. (1977). Design and Assessment of Nonspecific Control Groups in Behavior-Modification Research. *Behavior Therapy, 8* (4), 709-719.

Kausar, R., & Powell, G. E. (1999). Coping and psychological distress in carers of patients with neurological disorders. *Asia Pacific Disability Rehabilitation Journal, 10* (2), http://www.dinf.ne.jp/doc/english/asia/resource/apdrj/z13jo0400/z13jo0401.html.

Kelley, J. E., Lumley, M. A., & Leisen, J. C. C. (1997). Health effects of emotional disclosure in rheumatoid arthritis patients. *Health Psychology, 16*, 331-340.

Kerner, E. A., & Fitzpatrick, M. R. (2007). Integrating writing into psychotherapy practice: A matrix of change processes and structural dimensions. *Psychotherapy: Theory, Research, Practice, Training, 44* (3), 333-346.

Khaylis, A., Trockel. M., Barr, C., & Taylor M. D. (2009). Binge drinking in women at risk for developing eating disorders. *International Journal of Eating Disorders, 42* (5), 409-414.

King, L. A. (2002). Gain without pain? Expressive writing and self-regulation. In S. J. Lepore and J. M. Smyth (Eds.), *The writing cure: How expressive writing promotes health and well-being* (pp. 119-134). Washington, DC: American Psychological Association.

Klein, K., & Boals, A. (2001). Expressive writing can increase working memory capacity. *Journal of Experimental Psychology, 130* (3), 520-533.

Klinger, E. (1975). Consequences of commitment to and disengagement from incentives. *Psychological Review, 82*, 1-25.

Kloss, J. D., & Lisman, S. A. (2002). An exposure-based examination of the effects of written emotional disclosure. *British Journal of Health Psychology, 7* (1), 31-46.

Kovac, S. H., & Range, L. M. (2002). Does writing about suicidal thoughts and feelings reduce them? *Suicide and Life- Threatening Behavior, 32*, 428-440.

Kraft, C. A., Lumley, M. A., D'Souza, P. J., & Dooley, J. A. (2008). Emotional approach coping and self-efficacy moderate the effects of written emotional disclosure and relaxation training for people with migraine headaches. *British Journal of Health Psychology, 13* (1), 67-71.

Lambert, M.J., Burlingame, G.M., Umphress, V., Hansen, N.B., Vermeersch, D.A., Clouse, G.C., & Yanchar, S.C. (1996). The reliability and validity of the Outcome Questionnaire. *Clinical Psychology and Psychotherapy, 3*, 249-258.

Lambert, M. J., Hansen, N. B., Umpress, V., Lunnen, K., Okiishi, J., & Burlingame, G. M. (2002). *Administration and scoring manual for the OQ-45.2 (Outcome Questionnaire).* American Professional Credentialing Services, LLC.

Lambert, M. J., Morton, J. J., Hatfield, D., Harmon, C., Hamilton, S., & Reid, R. C. (2004). *Administration and scoring manual for the Outcome Questionnaire-45.* American Professional Credentialing Services, LLC.

Landgarten, H. B. (1993). *Magazine Photo Collage: A multicultural assessment and treatment technique*. Philadelphia, PA, US: Brunner/Mazel.

Langens, T. A., & Schuler, J. (2007). Effects of written emotional expression: The role of positive expectancies. *Health Psychology, 26* (2), 174-182.

Lazarus, R. S. (1966). *Psychological stress and the coping response.* New York: McGraw-Hill.

Lazarus, R. S. (1985). The psychology of stress and coping. *Issues in Mental Health Nursing. Special Issue: Stress and anxiety, 7* (1-4), 399-418.

Lazarus, R. S., & Folkman, S. (1984). *Stress appraisal and coping.* New York: Springer.

Lepore, S. J. (1997). Expressive writing moderates the relation between intrusive thoughts and depressive symptoms. *Journal of Personality and Social Psychology, 73*, 1030-1037.

Lepore, S. J., Greenberg, M. A., Bruno, M., & Smyth, J. M. (2002). Expressive writing and health: Self-regulation of emotion-related experience, physiology, and behavior. In S. J. Lepore & J. M. Smyth (Eds.), *The writing cure: How expressive writing promotes health and emotional well-being* (pp. 99-117). Washington, DC: American Psychological Association.

Lepore, S. J. & Smyth, J. M. (2002). *The Writing Cure: How Expressive Writing Promotes Health and Emotional Well-being.* Washington, DC: American Psychological Association.

Levenson, R. W. (1994). Human emotion: A functional view. In P. Ekman & R. J. Davidson (Eds.), *The nature of emotion: Fundamental questions* (pp. 123-126). New York: Oxford University Press.

Levine, J., Warrenburg, S., Kerns, R., Schwartz, G., Delaney, R., Fontana, A., Gradman, A., Smith, S., Allen, S., & Cascione, R. (1987). The role of denial in recovery from coronary heart disease. *Psychosomatic Medicine, 49*, 109-117.

Lode, K., Bru, E., Klevan, G., Myhr, K. M., Nyland, H., & Larsen, J. P. (2009). Depressive symptoms and coping in newly diagnosed patients with multiple sclerosis. *Multiple Sclerosis, 15* (5), 638-643.

Lohr, J. M., DeMaio, C., & McGlynn, F. D. (2003). Specific and nonspecific treatment factors in the experimental analysis of behavioral treatment efficacy. *Behavior Modification, 27* (3), 322-368.

Lumley, M. A., Gustavson, R., Partridge, T., & Labouvie-Vief, G. (2005). Assessing alexithymia and related emotional ability constructs using multiple methods: Interrelationships among measures. *Emotion, (5)* 3, 329-342.

Lumley, M. A., Naoum, L., & Kelley, J. (2001). *Alexithymia as a moderator of the effects of written and verbal emotional disclosure*. Poster session presented at the Annual Meeting of American Psychosomatic Society, Monterey, CA.

Lumley, M. A., & Provenzano, K. M. (2003). Stress management through written emotional disclosure improves academic performance among college students with physical symptoms. *Journal of Educational Psychology, 95* (3), 641-649.

Lumley, M. A., Tojek, T. M., & Macklem, D. J. (2002). The effects of written emotional disclosure among repressive and alexithymic people. In S. J. Lepore & J. M. Smyth (Eds.), *The writing cure: How expressive writing promotes health and emotional well-being* (pp.75- 95). Washington, DC: American Psychological Association.

Lyubomirsky, S., Sousa, L., & Dickerhoof, R. M. (2006). The costs and benefits of writing, talking aloud, and thinking about life's triumphs and defeats. *Journal of Personality and Social Psychology, 90* (4), 692-708.

Mauss, I B., & Robinson, M. D. (2009). Measures of emotion: A review. *Cognition and Emotion, 23* (2), 209-237.

McKenna, M. H. (1997). Symptom as storyteller: Migraine headache and journal writing (Doctoral dissertation, Pacifica Graduate Institute, 1997). *Dissertation Abstracts International, 59*, 3112.

McNair, D. M., Lorr, M., & Droppleman, L. F. (1971). *Manual: Profile of Mood States.* San Diego: Educational and Industrial Testing Service.

Mikulincer, M., Florian, V., & Weller, A. (1993). Attachment styles, coping strategies, and posttraumatic psychological distress: The impact of the Gulf war in Israel. *Journal of Personality and Social Psychology, 64*, 817-826.

Miller, P. M., Surtees, P. G., Kreitman, N. B., Ingham, J. G., & Sashidharan, S. P. (1985). Maladaptive coping reactions to stress. *Journal of Nervous and Mental Disease, 173*, 707-716.

Moore, S. A., Zoellner, L. A., & Mollenholdt, N. (2008). Are expressive suppression and cognitive reappraisal associate with stress-related symptoms? *Behaviour Research and Therapy, 46*, 993-1000.

Mullen, B., & Suls, J. (1982). The effectiveness of attention and rejection as coping styles: A meta-analysis of temporal differences. *Journal of Psychosomatic Research, 26*, 43-49.

Nazarian, D. (2009). Instructional manipulations in written emotional disclosure interventions: An experimental test of content effects on cortisol, mood, and linguistic dimensions. *Psychology Dissertations and Theses, 5,* http://surface.syr.edu/psy_etd/5.

Nemiah, J, C., & Sifneos, P. E. (1970). Affect and fantasy in patients with psychosomatic disorder. In O. W. Hill (Ed.), *Modern trends in psychosomatic medicine* (pp. 26-34). New York: Appleton-Century-Crofts.

Nolen-Hoeksema, S. (2000). The role of rumination in depressive disorders and mixed anxiety and depressive symptoms. *Journal of Abnormal Psychology, 109* (3), 504-511.

Nolen-Hoeksema, S., & Davis, C. G. (1999). "Thanks for sharing that": ruminators and their social support networks. *Journal of Personality and Social Psychology, 77*, 801-814.

Nolen-Hoeksema, S., Larson, J., & Grayson, C. (1999). Explaining the gender difference in depressive symptoms. *Journal of Personality and Social Psychology, 77*, 1061-1077.

Norman, S. A., Lumley, M. A., Dooley, J. A., et al. (2004). For whom does it work? Moderators of the effects of written emotional disclosure in a randomized trial among women with chronic pelvic pain. *Psychosomatic Medicine, 66*, 174–183.

Norusis, M. J. (2011). *SPSS for Windows: Base system user's guide. Release 20.0.* Chicago: SPSS Inc.

Odlaug, B. L., Mahmud, W., Goddard, A., & Grant, J. E. (2010). *Anxiety disorders.* New York, NY, US: Oxford University Press.

O'Neill, H. K., & Smyth, J. (2001). *Effects of written disclosure on post-disaster psychological adjustment and symptomatology.* Natural Hazards Research and Applications Centre. http://www.colorado.edu/hazards/research/qr/qr138/qr138.html.

Paez, D., Velasco, C., & Gonzalez, J. L. (1999). Expressive writing and the role of alexithymia as a dispositional deficit in self-disclosure and psychological health. *Journal of Personality and Social Psychology, 77*, 630-641.

Park, C. L., & Blumberg, C. J. (2002). Disclosing trauma through writing: Testing the meaning-making hypothesis. *Cognitive Therapy and Research, 26*, 597-616.

Parkes, K. R. (1984). Locus of control, cognitive appraisal, and coping in stressful episodes. *Journal of Personality and Social Psychology, 46*, 655-668.

Pavot, W., & Diener, E. (1993). Review of the satisfaction with life scale. *Psychological Assessment, 5* (2), 164-172.

Pennebaker, J. W. (1989). Cognition, inhibition, and disease. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 22, pp. 211-244). San Diego, CA: Academic Press.

Pennebaker, J. W. (1990). *Opening up: The healing power of expressing emotions.* New York: Guilford Press.

Pennebaker, J. W. (1992). Inhibition as the linchpin of health. In H. S. Friedman, *Hostility, coping, & health.* (pp. 127-139). Washington, DC, US: American Psychological Association.

Pennebaker, J. W. (1993). Putting stress into words: Health, linguistic, and therapeutic implications. *Behaviour Research and Therapy, 31* (6), 539-548.

Pennebaker, J. W. (1997). Writing about emotional experiences as a therapeutic process. *Psychological Science, 8* (3), 162-165.

Pennebaker, J. W. (1999). Psychological factors influencing the reporting of physical symptoms. In A. A. Stone., J. S. Turkkan., C. A. Bachrarch., J. B. Jobe., H. S.

Kurtzman., & V. S. Cain (Eds.), *The science of self report: Implications for research and practice* (pp. 299-316). Mahwah, NJ: Erlbaum Publishers.

Pennebaker, J. W. (2004). Theories, therapies, and taxpayers: On the complexities of the expressive writing paradigm. *Clinical Psychology: Science and Practice, 11* (2), 138-142.

Pennebaker, J. W. & Beall, S. K. (1986). Confronting a traumatic event. Toward an understanding of inhibition and disease. *Journal of Abnormal Psychology, 95*, 274–281.

Pennebaker, J. W., Colder, M., & Sharp, L. K. (1990). Accelerating the coping process. *Journal of Personality and Social Psychology, 58* (3), 528-537.

Pennebaker, J. W., & Francis, M. E. (1996). Cognitive, emotional, and language processes in disclosure. *Cognition and Emotion, 10*, 601-626.

Pennebaker, J. W., & Graybeal, A. (2001). Patterns of natural language use: Disclosure, personality, and social integration. *Current Directions in Psychological Science, 10* (3), 90-93.

Pennebaker, J. W., Kiecolt-Glaser, J. K., & Glaser, R. (1988). Disclosure of traumas and immune function: Health implications for psychotherapy. *Journal of Consulting and Clinical Psychology, 56*, 239-245.

Pennebaker, J. W., Mayne, T., & Francis, M. (1997). Linguistic predictors of adaptive bereavement. *Journal of Personality and Social Psychology, 72,* 863-871.

Pennebaker, J. W., & Seagal, J. (1999). Forming a story: The health benefits of narrative. *Journal of Clinical Psychology, 55,* 1243-1254.

Perls, F., Hefferline, R. F., & Goodman, P. (1951). *Gestalt therapy.* London, UK: Souvenir Press.

Pizarro, J. (2004). The efficacy of art and writing therapy: Increasing positive mental health outcomes and participant retention after exposure to traumatic experience. *Art Therapy, 21*, 5-12.

Puig, A., Lee, S. M., Goodwin, L., & Sherrard, P. A. D. (2006). The efficacy of creative arts therapies to enhance emotional expression, spirituality, and psychological well being of newly diagnosed Stage I and Stage II breast cancer patients: A preliminary study. *The Arts in Psychotherapy, 33* (3), 218-228.

Punamaki, R., Qouta, S., & El Sarraj, E. (1997). Prison experiences and coping strategies among political prisoners. *Peace and Conflict: Journal of Peace Psychology, 3*, 19-36.

Pynoos, R. & Eth, S. (1985). Developmental perspective on psychic trauma in childhood. In C. R. Figley (Ed.), *Trauma and Its Wake* (pp. 193-216). New York: Brunner/Mazel.

Radcliffe, A. M., Lumley, M. A., Kendall, J., Stevenson, J. K., & Beltran, J. (2010). Testing whether social disclosure matters. *Journal of Social and Clinical Psychology, 26* (3), 362-384.

Raval, A. A. (2000). The role of emotional expression in physical health: A relational perspective. *Dissertation Abstracts International: Section B: The Sciences and Engineering, 61*(3-B), pp. 1650.

Reynolds, M. W., Nabors, L., & Quinlan, A. (2000). The effectiveness of art therapy: Does it work? *Art Therapy: Journal of the American Art Therapy Association, 17* (3), 207- 213.

Richards, J. M., Beal, W. E., Seagal, J. D., & Pennebaker, J. W. (2000). Effects of disclosure of traumatic events on illness behavior among psychiatric prison inmates. *Journal of Abnormal Psychology, 109*, 156-160.

Richards, J. M., & Gross, J. J. (2000). Emotion regulation and memory: The cognitive costs of keeping one's cool. *Journal of Personality and Social Psychology, 79*, 410-424.

Rippetoe, P. A., & Rogers, R. W. (1987). Effects of components of protection-motivation theory on adaptive and maladaptive coping with a health threat. *Journal of Personality and Social Psychology, 52,* 596-604.

Rottenberg, J., & Gross, J. J. (2007). Emotion and emotion regulation: A map for psychotherapy researchers. *Clinical Psychology: Science and Practice, 14*, 323-328.

Russ, D. A. (1992). The use of programmed writing as a treatment for anxiety. (Doctoral dissertation, Georgia State University, 1992). *Dissertation Abstracts International, 53,* 3165-3166.

Scheier, M. F., & Carver, C. S. (1988). A model of behavioral self-regulation: Translating intention into action. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 21, pp. 303-346). New York: Academic Press.

Scheier, M. F., Weintraub, J. K., & Carver, C. S. (1986). Coping with stress: Divergent strategies of optimists and pessimists. *Journal of Personality and Social Psychology, 51*, 1257-1264.

Schmidt, U., Bone, G., Hems, S., Lessem, J., & Treasure, J. (2002). Structured therapeutic writing tasks as an adjunct to treatment of eating disorders. *European Eating Disorders Review, 10*, 299-315.

Schutte, N. S., Searle, T., Meade, S., & Dark, N. A. (2012). The effect of meaningfulness and integrative processing in expressive writing on positive and negative affect and life satisfaction. *Cognition and Emotion, 26* (1), 144-152.

Shaver & Mikulincer (2007). Emotion regulation: Conceptual foundations. In J.J. Gross (Ed.), *Handbook of emotion regulation* (pp. 446-465). New York: Guilford Press.

Sloan, D. M., & Kring, A. M. (2007). Measuring changes in emotion during psychotherapy: Conceptual and methodological issues. *Clinical Psychology: Science and Practice, 14,* 307-322.

Sloan, D. M., & Marx, B. P. (2004a). A closer examination of the structured written disclosure procedure. *Journal of Consulting and Clinical Psychology, 72*, 165-175.

Sloan, D. M., & Marx, B. P. (2004b). Taking pen to hand: Evaluating theories underlying the written disclosure paradigm. *Clinical Psychology: Science and Practice, 11,* 121-137.

Sloan, D. M., & Marx, B. P. (2006). Exposure through written emotional disclosure: Two case examples. *Cognitive and Behavioral Practice, 13* (3), 227-234.

Sloan, D. M., Marx, B. P., & Epstein, E. M. (2005). Further examination of the exposure model underlying the efficacy of written emotional disclosure. *Journal of Consulting and Clinical Psychology, 73*, 549-554.

Smith, C. A. (1991). The self, appraisal, and coping. In C. R. Snyder & D. R. Forsyth (Eds.), *Handbook of social and clinical psychology: The health perspective* (pp. 116-137). Elmsford, NY: Pergamon.

Smyth, J. M. (1998). Written emotional expression: Effect sizes, outcome types, and moderating variables. *Journal of Consulting and Clinical Psychology, 66*, 174-184.

Smyth, J. M., & Pennebaker, J. W. (1999). Sharing one's story: Translating emotional experience into words as a coping tool. In C. R. Snyder (Ed.), *Coping: The psychology of what works* (pp. 70-89). New York: Oxford University Press.

Smyth, J. M., & Pennebaker, J. W. (2008). Exploring the boundary conditions of expressive writing: In search of the right recipe. *British Journal of Health Psychology, 13,* 1-7.

Smyth, J. M., Stone, A. A., Hurewitz, A., & Kaell, A. (1999). Effects of writing about stressful experiences on symptom reduction in patients with asthma and rheumatoid arthritis: A randomized trial. *Journal of the American Medical Association, 281*, 1304-1309.

Snyder, C. R., & Dinoff, B. L. (1999). Coping. Where have you been? In C. R. Snyder (Ed.), *Coping: The psychology of what works* (pp. 3-19). New York: Oxford University Press.

Spera, S. P., Buhrfeind, E. D., & Pennebaker, J. W. (1994). Expressive writing and coping with job loss. *Academy of Management Journal, 37*, 722-733.

Stanton, A. L., Danoff-Burg, S., Cameron, C. L., Bishop, M. M., Collins, C. A., Kirk, S. B., Sworowski, L. A., & Twillman, R. (2000a). Emotionally expressive coping predicts psychological and physical adjustment to breast cancer. *Journal of Consulting and Clinical Psychology, 68,* 875-882.

Stanton, A. L., Danoff-Burg, S., Cameron, C. L., & Ellis, A. P. (1994). Coping through emotional approach: Problems of conceptualization and confounding. *Journal of Personality and Social Psychology, 66,* 350-362.

Stanton, A. L., & Franz, R. (1999). Focusing on emotion. An adaptive coping strategy? In C. R. Snyder (Ed.), *Coping: The psychology of what works* (pp. 90-118). New York: Oxford University Press.

Stanton, A. L., Kirk, S. B., Cameron, C. L. & Danoff-Burg, S. (2000b). Coping through emotional approach: Scale construction and validation. *Journal of Personality and Social Psychology, 78* (6), 1150-1169.

Stanton, A. L., Parsa, A., & Austenfeld, J. L. (2002). The adaptive potential of coping through emotional approach. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of Positive Psychology* (pp. 148-158). New York: Oxford University Press.

Stanton, A. L., & Snider, P. (1993). Coping with a breast cancer diagnosis: A prospective study. *Health Psychology, 12*, 16-23.

Stasiewicz, P. R., & Maisto, S. A. (1993). Two-factor avoidance theory: The role of negative affect in the maintenance of substance use and substance use disorder. *Behavior Therapy, 24*, 337–356.

Strand, E. B., Zatura, A. J., Thoresen, M., Odegard, S., Uhlig, T., & Finset, A. (2006). Positive affect as a factor of resilience in the pain-negative affect relationship in

patients with rheumatoid arthritis. *Journal of Psychosomatic Research, 60* (5), 477-484.

Stroebe, M., Stroebe, W., Schut, H., Zech, E., & van den Bout, J. (2002). Does disclosure of emotions facilitate recovery from bereavement? Evidence from two prospective studies. *Journal of Consulting and Clinical Psychology, 70*, 169-178.

Suh, E., Diener, E., & Fujita, F. (1996). Events and subjective well being: Only recent events matter. *Journal of Personality and Social Psychology, 70*, 1091-1102.

Suls, J., & Fletcher, B. (1985). The relative efficacy of avoidant and non-avoidant coping strategies: A meta-analysis. *Health Psychology, 4*, 249-288.

Sweig, T. L. (2000). Women healing women: Time-limited, psycho educational group therapy for childhood sexual abuse survivors. *Art Therapy, 17*, 255- 264.

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics*. Boston: Allyn and Bacon.

Taylor, G. J., Bagby, R. M., & Parker, J. D. A. (1997). *Disorders of affect regulation: Alexithymia in medical and psychiatric illness.* New York: Cambridge University Press.

Tellegen, A. (1985). Structures of mood and personality and their relevance to assessing anxiety, with an emphasis on self-report. In A. H. Tuma and J. D. Maser (Eds.), *Anxiety and their anxiety disorders* (pp. 681- 706). Hillsdale, NJ: Erlbaum.

Ullrich, P. A., & Lutgendorf, S. K. (2002). Journaling about stressful events: Effects of cognitive processing and emotional expression. *Annals of Behavioral Medicine, 24,* 244-250.

Vitaliana, P., Russo, J., Young, H., Becker, J., Maiuro, R. (1991). The screen for caregiver burden. *Gerontologist, 31*, 76-83.

Vollrath, M., Alnæs, R., & Torgersen, S. (1994). Coping and MCMI-II symptom scales. *Journal of Clinical Psychology, 50* (5), 727-736.

Vollrath, M., Alnaes, R., & Torgersen, S. (2003). Coping and MCMI-II symptom scales. *Journal of Clinical Psychology, 59* (12), 1305-1314.

Waller, D. (1993). *Group interactive art therapy: Its use in training and treatment.* Florence, KY, US: Taylor & Frances/Routledge.

Watson, D. (1988). Intraindividual and interindividual analyses of positive and negative affect: Their relation to health complaints, perceived stress, and daily activities. *Journal of Personality and Social Psychology, 54*, 1020-1030.

Watson, D. (1988). The vicissitudes of mood measurement: Effects of varying descriptors, time frames, and response formats on measures of positive and negative affect. *Journal of Personality and Social Psychology, 55*, 128-141.

Watson, D., & Clark, L. A. (1984). Negative affectivity: The disposition to experience aversive emotional states. *Psychological Bulletin, 96* (3), 465-490.

Watson, D., & Clark, L. A. (1991). Self versus peer ratings of specific emotional traits: Evidence of convergent and discriminant validity. *Journal of Personality and Social Psychology, 60* (6), 927-940.

Watson, D., & Clark, L. A. (1994). *The PANAS-X: Manual for the positive and*

negative affect schedule-Expanded Form. Iowa City: University of Iowa.

Watson, D., & Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063-1070.

Watson, D., David, J. P., & Suls, J. (1999). Personality, affectivity, and coping. In C. R. Snyder (Ed.), *Coping: The psychology of what works* (pp. 119-140). New York: Oxford University Press.

Watson, D., & Tellegan, A. (1985). Toward a consensual structure of mood. *Psychological Bulletin, 98*, 219- 235.

Wills, T. A. (1986). Stress and coping in early adolescence: Relationships to substance use in urbane school samples. *Health Psychology, 5*, 503-529.

Wranik, T., Barret, L. Fl., & Salovey, P. (2007). Intelligent emotion regulation. In J.J. Gross (Ed.), *Handbook of emotion regulation* (pp. 393-428). New York: Guilford Press.

Zautra, A. J., Burleson, M. H., Smith, C. A., Blalock, S. J., Wallston, K. A., DeVellis, B., et al. (1995). Arthritis and perceptions of quality of life: An examination of positive and negative affect in rheumatoid arthritis patients. *Health Psychology, 14*, 399-408.

Zevon, M. A., & Tellegen, A. (1982). The structure of mood change: An idiographic/nomothetic analysis. *Journal of Personality and Social Psychology, 43*, 111-122.

APPENDIX A

A4 Recruitment poster for University psychology students

Creativity as an Emotional Approach Coping Strategy

Can You Draw a Squiggly Line?

About the Study….

We are seeking volunteers who are interested in participating in a PhD (Clinical Psychology) research project which aims to examine how creative expression about experiences can assist people to deal with emotionally challenging events. The study also aims to investigate how the intervention of creative emotional expression impacts on other factors such as life satisfaction, quality of social support, and physical and psychological well-being.

Participation in the study involves being assigned to one of three conditions:

- Creative writing (e.g., write about how you are currently feeling)
- Creative drawing (e.g., draw how you are currently feeling),
- Completing surveys only

Who is eligible to participate?

- There is no need to identify with being 'creative' or have drawing or creative writing skills
- You must be over 18 years of age to participate

What is required for the Creative Conditions?

- Completing a creative activity for one hour per week over one month consecutively
- Completing a small battery of surveys at the beginning and end of each one hour session
- Completing a small battery of surveys prior to the intervention and again in 6-months time

What is required for the Control Condition?

- Completing a small battery of surveys initially and then again in 6-months time

If you would like to participate or would like more information please contact:-

Lily Amorous
School of Psychology
University of Tasmania
lamorous@postoffice.utas.edu.au
03) 6226 6618

APPENDIX B

Recruitment email distributed throughout Tasmanian health and well-being networks

‘Researchers at the University of Tasmania are seeking volunteers who are interested in participating in a PhD (Clinical Psychology) research project which aims to examine how creative expression about experiences can assist people to deal with emotionally challenging events. The study also aims to investigate how the intervention of creative emotional expression impacts on other factors such as self esteem, quality of social support, and physical and psychological well being.

Participation in the study would involve completing surveys and being assigned to one of three conditions: creative writing (e.g., write about how you are feeling), creative drawing (draw a line, shape, or form that represents how you are currently feeling), or completing surveys only. You do not need to identify with being creative, or be a professional artist.

If you are interested in participating and/or would like more information about the study, please contact myself on lamorous@postoffice.utas.edu.au.

Lily Amorous (B.Psych (Hons); PhD Candidate) School of Psychology University of Tasmania’

APPENDIX C
Newspaper article requesting participants

This appendix has been removed due to copyright or proprietary reasons

APPENDIX D

A4 Recruitment poster for community participants

Creativity as an Emotional Approach Coping Strategy
Can You Draw a Squiggly Line?

About the Study….
We are seeking volunteers who are interested in participating in a PhD (Clinical Psychology) research project which aims to examine how creative expression about experiences can assist people to deal with emotionally challenging events. The study also aims to investigate how the intervention of creative emotional expression impacts on other factors such as life satisfaction, quality of social support, and physical and psychological well-being.

Participation in the study involves being assigned to one of several conditions:
- Creative writing
- Creative drawing
- Completing surveys only

Who is eligible to participate?
- There is no need to identify with being 'creative' or have drawing or creative writing skills
- You must be over 18 years of age to participate

What is required for the Creative Conditions?
- Completing a creative activity for one hour per week over one-month consecutively
- Completing a small battery of surveys at the beginning and end of each one hour session
- Completing a small battery of surveys prior to the intervention and again in 6-months time

What is required for the Control Condition?
- Completing a small battery of surveys initially and then again in 6-months time

If you would like to participate or would like more information please contact:-

Lily Amorous
School of Psychology
University of Tasmania
lamorous@postoffice.utas.edu.au
03) 6226 6618

APPENDIX E

Information sheet

UNIVERSITY OF TASMANIA

DATE:

Information Sheet

'Creativity as an Emotional Approach Coping Strategy'

Information about the Research

Professor Douglas Paton, and Ms. Lily Amorous from the School of Psychology at the University of Tasmania would like to invite you to participate in a Ph D Clinical Psychology research project being conducted by Lily Amorous. The aim of the research is to examine how creative expression about experiences can assist people to deal with emotionally challenging events. The study also aims to investigate how the intervention of creative emotional expression impacts on other factors such as self esteem, levels of alcohol use, quality of social support, and physical and psychological well being.

There has been much empirical support for the benefits of processing and expressing emotions through creative means such as expressive writing. These activities had positive benefits for peoples' well being and general functioning (e.g., reemployment after termination, grade point average) and decreased anxiety. It is proposed that creative drawing may exhibit similar success, and offer an alternative route of emotional expression. However, there is a need to evaluate the value of other means of expression such as drawing. This defines the context for the present study. It will compare how effective drawing is compared with writing as means of increasing emotional approach coping.

Based on available research, the benefits of the intervention may be evident in increased positive well being outcomes (e.g. improved health, self-esteem, satisfaction with life, and social support). Results from the research will provide useful information about how people cope with emotions and how this impacts on other aspects of their lives. Furthermore, the results will provide practical and theoretical recommendations for using emotional approach coping strategies in clinical population and non clinical populations as an intervention. The research will also provide participants with a strategy that they can take with them and use subsequently to help deal with challenging events experienced in the future.

Who is eligible to participate?

You must be over 18 years of age to participate. You will not be eligible to participate if you identify as having a dependence on illicit drugs or alcohol. All participation will be voluntary.

What will be required of you?

After having read this information sheet, if you are interested in participating, you are invited to contact the researcher, Ms Lily Amorous. You will then be given a consent form to complete. If you indicate your willingness to participate in this study by signing the consent form you will be randomly assigned to one of three conditions, emotionally expressive creative drawing (e.g. draw how you are currently feeling), emotionally expressive writing (e.g. write about how you are currently feeling) and control group (completing surveys only). If you are assigned to one of the creative

expressive groups, you will be invited participate for one hour for 4 consecutive weeks during one specific month. You will then be asked to complete a short survey both before and again after the exercise. This is to assess whether any changes to well being and emotional expression have occurred. You will then be invited to complete the creative exercise, depending on specific group to which you have been randomly assigned. Six months after this initial phase, you will be invited to complete another survey again. The information collected at this time will be used to examine the effects of the intervention upon coping strategies, self esteem, level of alcohol and cigarette use, physical and psychological well being, social support and satisfaction with life.

Participation is voluntary and you are able to withdraw from the study at any time, and may withdraw any data that you have contributed to date. All information will be treated in strictest confidence, that is, only the researchers will have access to the data and no information you provide will be available to any other person or agency. Because the study requires the collection of data from you on two occasions, separated by six months, it is necessary to have some means of identifying you. To protect the anonymity of the information you provide, you will be asked to select a code name and to provide the name you select on the consent form. Thereafter, your code name will be the only identifying piece of information on the surveys. Should copies of the creative exercises be used for papers, thesis, seminars, or public viewing, you will be asked to voluntarily sign a release form specifying the use of the material. No identifying information will be attached to the work. Data collected during the research may be published as general findings in the thesis and scientific journals, though any identifying details and code names will be removed.

Once collected, the data will be held in a secure location (in the School of Psychology, University of Tasmania) for five years. At this time all data will be destroyed.

The research is being conducted in accordance with the protocols prescribed by the Human Research Ethics Committee (Tasmania) Network. This means that prospective participants in the research have the right:

- To decline to participate
- To refuse to answer any particular questions
- To ask any questions about the study at any time during participation
- To provide information on the understanding that responses are provided anonymously
- To be given access to a summary of the findings of the study when it is concluded.

If you have any queries about the project or if you would like to be informed of the overall results of the study, please feel free to contact Professor Douglas Paton on (03) 63243193 or Ms Lily Amorous (03) 6226 7664. A report summarising the findings of this survey will be available on the University of Tasmania, School of Psychology (http://fcms.its.utas.edu.au/scieng/psychol/) web page. Should you wish any additional information regarding this study, please do not hesitate to contact any of the research team.

Should you have any concerns of an ethical nature or complaints about the manner in which this research is conducted, please do not hesitate to contact the Executive Officer of the Network (Ph 6226 2763).

If you are interested in assisting with this research, please contact the researcher.

Please keep this information sheet for your records.

Contact Details

Lily Amorous Ph: 03 6226 7664
(PhD Student) Email: lamorous@postoffice.utas.edu.au

Professor Douglas Paton Ph: 03 6324 3193
(Primary Research Supervisor) Email: Douglas.Paton@utas.edu.au

APPENDIX F

Consent form

School of Psychology, University of Tasmania
Creativity as an Emotional Approach Coping Strategy Study

Consent Form

Please read the following points and sign the form. This shows that you have seen this form and agree to take part.

1. I have read and understood the 'Information Sheet' for this study.
2. The reasons for the study, what it will involve, and the possible effects of the study have been explained to me.
3. I understand that I will select a code name and that this code name will be the only means of identification on the forms.
4. I understand that as part of this study, I will be asked to complete a series of forms that ask for information about me as an individual as well as my daily life experiences. I understand that there are initial forms to be completed prior to the creative activity and then weekly at the beginning of each 1 hour activity, and the second at the end of the activity. A final set of forms will be completed six months later.
5. I understand that all research data will be securely stored in the School of Psychology (Hobart Campus), University of Tasmania premises for a period of five years. The tapes and the data will be destroyed at the end of five years. Only the researcher and supervisor will have access to my answers.
6. I agree to participate in the study and understand that my participation is voluntary and that I may withdraw at any time without being penalized or disadvantaged in any way, and that I may withdraw any information/data supplied to date.
7. I agree that information gathered for the study may be published provided that I cannot be identified as a participant and that the papers will contain general findings, but no names or other identifying information.
8. I understand that no psychological distress or inconvenience beyond the normal experience of everyday life is expected.
9. Any questions that I have asked have been answered to my satisfaction.

The Researcher can be contacted at the School of Psychology, University of Tasmania, Private Bag 30, Hobart 7000. Telephone: 6226 7664, Email: lamorous@postoffice.utas.edu.au

Lily Amorous, B.Psych (Hons) Phd (Clinical Psychology)Candidate

I have read the above points and agree to participate in the University of Tasmania Project.

Signed: _____ Date: _____/_____/_____
Please print Name: _____
Code name: _____

Statement by investigator:
I have explained this project and the implications of participation in it to this volunteer and I believe that the consent is informed and that he/she understands the implications of participation.

Name of Investigator:……..Signature ……
Date:……...

Name of Investigator:……..Signature ……
Date:……...

APPENDIX G

Baseline and follow-up battery of surveys

University of Tasmania

Creativity as an Emotional Approach Coping Strategy

Battery of Surveys

Researcher Contact Details
School of Psychology, University of Tasmania, Private Bag 30, Hobart 7000.

Lily Amorous (PhD Candidate) Ph: 03 6226 7664
Email: lamorous@postoffice.utas.edu.au

Professor Douglas Paton (Primary Research Supervisor) Ph: 03 6324 3193
Email: Douglas.Paton@utas.edu.au

CREATIVITY AS AN EMOTIONAL APPROACH COPING STRATEGY

Background:
The aim of the research is to examine how creative expression about experiences can assist people to deal with emotionally challenging events. The study also aims to investigate how the intervention of creative emotional expression impacts on other factors such as self esteem, quality of social support, and physical and psychological well being.

Involvement:
Participation in the project will involve partaking in a one hour session, once per week for one month of basic drawing or writing and/or survey completion. Furthermore, participants will be expected to complete on one occasion a series of standard questionnaires 6 months post intervention. Participation in this project is voluntary and participants may elect to withdraw at any time.

Benefits that may result from the research:
Results from the research may provide practical and theoretical recommendations for using creativity as an emotional approach coping strategy in specific populations as an intervention, and provide useful information regarding the moderating effects of coping in individuals.

Confidentiality of the data:
This project has been granted ethics approval by the Ethics Committee of the University of Tasmania. No identifying information about participants is stored with survey responses. All data is being aggregated for reporting purposes.

PARTICIPANTS SHOULD RETURN QUESTIONNAIRES DIRECTLY TO LILY AMOROUS (IN ENVELOPE PROVIDED).

Thank you for your continuing involvement in this project. Your input is much appreciated.

Lily Amorous
School of Psychology
University of Tasmania
Private Bag 30
Hobart 7000
Telephone: (03) 6226 7664
Email: lamorous@postoffice.utas.edu.au

NB: MOST OF THE FOLLOWING PAGES ARE PRINTED ON BOTH SIDES

Code Name_____

Section 1

Please complete the following section. Your details will later be separated from your responses to ensure confidentiality.

Name _____

Postal Address_____

_____State _____Postcode _____

Telephone Number (Home) _____ (Mobile) _____

Email Address_____

……

(To be detached by researcher)

Code Name _____

Section 2

Please complete the following questions.

1. Sex: (Please Circle)

   Male Female

2. Date of Birth: _____/_____/_____

3. Age: _____

5. Marital Status: (Please Circle)

   Single Married Defacto Divorced

6. Number of Children _____

7. Level of Education (Please Tick)

   Year 10 _____

   Year 11 or 12 _____

   Tafe Certificate

   or Diploma _____

   University Degree _____

8. Occupation _____

9. Employment Status (Please Circle)

   Full time Part time Casual Unemployed

Please turn overleaf and continue to answer the following questionnaires.

Emotional Approach Coping Survey

We are interested in how people respond when they confront stressful experiences. By "stressful" we mean situations that are difficult or troubling to you, either because they upset you or because it takes considerable effort to deal with them. There are many ways to deal with stress. This questionnaire asks you to indicate what *you* generally do, feel, and think when *you* experience stressful situations. Obviously, different experiences may bring out different responses, but think about what you ***usually*** do when you are under a lot of stress.

1= I usually don't do this at all
2= I usually do this a little bit
3= I usually do this a medium amount
4= I usually do this a lot

1. I take time to figure out what I am really feeling ____
2. I delve into my feelings to get thorough understanding of them ____
3. I realize that my feelings are valid and important ____
4. I acknowledge my emotions ____
5. I let my feelings come out freely ____
6. I take time to express my emotions ____
7. I allow myself to express my emotions ____
8. I feel free to express my emotions ____

COPE

We are interested in how people respond when they confront difficult or stressful events in their lives. There are lots of ways to try to deal with stress. This questionnaire asks you to indicate what you generally do and feel when you experience stressful events. Obviously, different events bring out somewhat different responses, but think about what you usually do when you are under a lot of stress.

Then respond to each of the following items by choosing one number on your answer sheet for each, using the response choices listed just below. Please try to respond to each item separately in your mind from each other item. Choose your answers thoughtfully, and make your answers as true FOR YOU as you can. Please answer every item. There are no "right" or "wrong" answers, so choose the most accurate answer for YOU--not what you think "most people" would say or do. Indicate what YOU **usually do when YOU experience a stressful event.**

1 = I usually don't do this at all
2 = I usually do this a little bit
3 = I usually do this a medium amount
4 = I usually do this a lot

1. I try to grow as a person as a result of the experience _____
2. I turn to work or other substitute activities to take my mind off things _____
3. I get upset and let my emotions out _____
4. I try to get advice from someone about what to do _____
5. I concentrate my efforts on doing something about it _____
6. I say to myself "this isn't real" _____
7. I put my trust in God _____
8. I laugh about the situation _____
9. I admit to myself that I can't deal with it, and quit trying _____
10. I restrain myself from doing anything too quickly _____

11. I discuss my feelings with someone _____
12. I use alcohol or drugs to make myself feel better _____
13. I get used to the idea that it happened _____
14. I talk to someone to find out more about the situation _____
15. I keep myself from getting distracted by other thoughts or activities _____
16. I daydream about things other than this _____
17. I get upset, and am really aware of it _____
18. I seek God's help _____
19. I make a plan of action _____
20. I make jokes about it _____

21. I accept that this has happened and that it can't be changed _____
22. I hold off doing anything about it until the situation permits _____

1= I usually don't do this at all
2= I usually do this a little bit
3= I usually do this a medium amount
4= I usually do this a lot

23. I try to get emotional support from friends or relatives _____
24. I just give up trying to reach my goal _____
25. I take additional action to try to get rid of the problem _____
26. I try to lose myself for a while by drinking alcohol or taking drugs _____
27. I refuse to believe that it has happened _____
28. I let my feelings out _____
29. I try to see it in a different light, to make it seem more positive _____
30. I talk to someone who could do something concrete about the problem _____

31. I sleep more than usual _____
32. I try to come up with a strategy about what to do _____
33. I focus on dealing with this problem, and if necessary let other things slide a little _____

34. I get sympathy and understanding from someone _____
35. I drink alcohol or take drugs, in order to think about it less _____
36. I kid around about it _____
37. I give up the attempt to get what I want _____
38. I look for something good in what is happening _____
39. I think about how I might best handle the problem _____
40. I pretend that it hasn't really happened _____

41. I make sure not to make matters worse by acting too soon _____
42. I try hard to prevent other things from interfering with my efforts at dealing with this _____
43. I go to movies or watch TV, to think about it less _____
44. I accept the reality of the fact that it happened _____
45. I ask people who have had similar experiences what they did _____
46. I feel a lot of emotional distress and I find myself expressing those feelings a lot _____
47. I take direct action to get around the problem _____
48. I try to find comfort in my religion _____
49. I force myself to wait for the right time to do something _____
50. I make fun of the situation _____
51. I reduce the amount of effort I'm putting into solving the problem _____
52. I talk to someone about how I feel _____
53. I use alcohol or drugs to help me get through it _____
54. I learn to live with it _____
55. I put aside other activities in order to concentrate on this _____
56. I think hard about what steps to take _____

1= I usually don't do this at all
2= I usually do this a little bit
3= I usually do this a medium amount
4= I usually do this a lot

57. I act as though it hasn't even happened _____
58. I do what has to be done, one step at a time _____
59. I learn something from the experience _____
60. I pray more than usual _____

Outcome Questionnaire

How have you been feeling generally in the last week? Circle the response that best describes your current situation. (If you do not work, answer in regards to hobbies, housework, study, volunteer work and so forth).

1 = Never 2 = Rarely 3 = Sometimes 4 = Frequently 5 = Almost always

1.	I get along well with others	1 2 3 4 5
2.	I tire quickly	1 2 3 4 5
3.	I feel no interest in things	1 2 3 4 5
4.	I feel stressed at work/study/housework/hobbies	1 2 3 4 5
5.	I blame myself for things	1 2 3 4 5
6.	I feel irritated	1 2 3 4 5
7.	I feel unhappy in my marriage or close relationship	1 2 3 4 5
8.	I have thoughts of ending my life	1 2 3 4 5
9.	I feel weak	1 2 3 4 5
10.	I feel fearful	1 2 3 4 5
11.	After heavy drinking, I need a drink the next morning to get going	1 2 3 4 5
12.	I find work/study/hobbies/home duties satisfying	1 2 3 4 5
13.	I am a happy person	1 2 3 4 5
14.	I work/study too much	1 2 3 4 5
15.	I feel worthless	1 2 3 4 5
16.	I am concerned about family troubles	1 2 3 4 5
17.	I have an unfulfilling sex life	1 2 3 4 5
18.	I feel lonely	1 2 3 4 5
19.	I have frequent arguments	1 2 3 4 5
20.	I feel loved and wanted	1 2 3 4 5
21.	I enjoy my spare time	1 2 3 4 5
22.	I have difficulty concentrating	1 2 3 4 5
23.	I feel hopeless about the future	1 2 3 4 5
24.	I like myself	1 2 3 4 5
25.	Disturbing thoughts come into my mind that I cannot get rid of	1 2 3 4 5
26.	I feel annoyed by people who criticize my drinking or drug use	1 2 3 4 5

1 = Never 2 = Rarely 3 = Sometimes 4 = Frequently 5 = Almost always

27.	I have an upset stomach	1 2 3 4 5
28.	I am not doing hobbies/work/study as well as I used to	1 2 3 4 5
29.	My heart pounds too much	1 2 3 4 5
30.	I have trouble getting along with friends and close acquaintances	1 2 3 4 5
31.	I am satisfied with my life	1 2 3 4 5
32.	I have trouble with work/study/hobbies/ because of my drinking/drug use	1 2 3 4 5
33.	I feel that something bad is going to happen	1 2 3 4 5
34.	I have sore muscles	1 2 3 4 5
35.	I feel afraid of open spaces, of driving, or being on buses, trains, and so forth	1 2 3 4 5
36.	I feel nervous	1 2 3 4 5
37.	I feel my close relationships are full and complete	1 2 3 4 5
38.	I feel that I am doing well at work/study/ hobbies	1 2 3 4 5
39.	I have too many disagreements at work/school/hobbies	1 2 3 4 5
40.	I feel something is wrong with my mind	1 2 3 4 5
41.	I have trouble falling asleep or staying asleep	1 2 3 4 5
42.	I feel blue	1 2 3 4 5
43.	I am satisfied with my relationships with others	1 2 3 4 5
44.	I feel angry enough at work/school/social outings to do something I might regret	1 2 3 4 5
45.	I have headaches	1 2 3 4 5

Satisfaction with Life Scale

Below are some statements with which you may agree or disagree. Use the scale below to show your agreement or disagreement with each item. Place the number on the line for that item. Please be open and honest with your responses.

1 = Strongly disagree
2 = Disagree
3 = Slightly Disagree
4 = Neither Agree nor Disagree
5 = Slightly Agree
6 = Agree
7 = Strongly Agree

____ 1. In most ways, my life is close to ideal
____ 2. The conditions of my life are excellent
____ 3. I am satisfied with my life
____ 4. So far, I have gotten the important things I want from life
____ 5. If I could live my life over, I would change almost nothing.

APPENDIX H

Emotional disclosure drawing survey package, repeated weeks 1-4.

Creativity as an Emotional Approach Coping Strategy

Creative Drawing Activity

Week X

Instructions: Please complete the first survey (Pre PANAS-X) then immediately after completing the survey, spend 30-60 minutes drawing about how you are currently feeling. Immediately following this, please complete the final survey (Post PANAS-X). Enclose the survey package in the envelope provided and post to Lily Amorous, School of Psychology, University of Tasmania, Private Bag 30, Hobart 7000.

Researcher Contact Details
School of Psychology, University of Tasmania, Private Bag 30, Hobart 7000.

Lily Amorous (PhD Student) Ph: 03 6226 7664
Email: lamorous@postoffice.utas.edu.au

Professor Douglas Paton (Primary Research Supervisor) Ph: 03 6324 3193
Email: Douglas.Paton@utas.edu.au

Pre Creative Activity

Code Name: _____ Date: ____/____/____ Time: _____

PANAS-X

This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item hen mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way **RIGHT NOW**. Use the following scale to record your answers.

1	**2**	**3**	**4**	**5**
Very slightly or not at all	**A little**	**Moderately**	**Quite a bit**	**Extremely**

1. _____ cheerful
2. _____ disgusted
3. _____ attentive
4. _____ bashful
5. _____ sluggish
6. _____ daring
7. _____ surprised
8. _____ strong
9. _____ scornful
10. _____ relaxed
11. _____ irritable
12. _____ delighted
13. _____ inspired
14. _____ fearless
15. _____ disgusted with self
16. _____ sad
17. _____ calm
18. _____ afraid
19. _____ tired
20. _____ amazed
21. _____ shaky
22. _____ happy
23. _____ timid
24. _____ alone
25. _____ alert
26. _____ upset
27. _____ angry
28. _____ bold
29. _____ blue
30. _____ shy
31. _____ active
32. _____ guilty
33. _____ joyful
34. _____ nervous
35. _____ lonely
36. _____ sleepy
37. _____ excited
38. _____ hostile
39. _____ proud
40. _____ jittery
41. _____ lively
42. _____ ashamed
43. _____ at ease
44. _____ scared
45. _____ drowsy
46. _____ angry at self
47. _____ enthusiastic
48. _____ downhearted
49. _____ sheepish
50. _____ distressed
51. _____ blameworthy
52. _____ determined
53. _____ frightened
54. _____ astonished
55. _____ interested
56. _____ loathing
57. _____ confident
58. _____ energetic
59. _____ concentrating
60. _____ dissatisfied with self

Draw about how you are currently feeling.

Post Creative Activity

Code Name: _____ Date: ____/____/____ Time: _____

PANAS-X

This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item hen mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way **RIGHT NOW**. Use the following scale to record your answers.

1	**2**	**3**	**4**	**5**
Very slightly or not at all	**A little**	**Moderately**	**Quite a bit**	**Extremely**

1. _____ cheerful
2. _____ disgusted
3. _____ attentive
4. _____ bashful
5. _____ sluggish
6. _____ daring
7. _____ surprised
8. _____ strong
9. _____ scornful
10. _____ relaxed
11. _____ irritable
12. _____ delighted
13. _____ inspired
14. _____ fearless
15. _____ disgusted with self
16. _____ sad
17. _____ calm
18. _____ afraid
19. _____ tired
20. _____ amazed
21. _____ shaky
22. _____ happy
23. _____ timid
24. _____ alone
25. _____ alert
26. _____ upset
27. _____ angry
28. _____ bold
29. _____ blue
30. _____ shy
31. _____ active
32. _____ guilty
33. _____ joyful
34. _____ nervous
35. _____ lonely
36. _____ sleepy
37. _____ excited
38. _____ hostile
39. _____ proud
40. _____ jittery
41. _____ lively
42. _____ ashamed
43. _____ at ease
44. _____ scared
45. _____ drowsy
46. _____ angry at self
47. _____ enthusiastic
48. _____ downhearted
49. _____ sheepish
50. _____ distressed
51. _____ blameworthy
52. _____ determined
53. _____ frightened
54. _____ astonished
55. _____ interested
56. _____ loathing
57. _____ confident
58. _____ energetic
59. _____ concentrating
60. _____ dissatisfied with self

APPENDIX I

Placebo disclosure drawing survey package, repeated weeks 1-4.

Creativity as an Emotional Approach Coping Strategy

Creative Drawing Activity

Week X

Instructions: Please complete the first survey (Pre PANAS-X) then immediately after completing the survey, spend 30-60 minutes drawing about how you are currently feeling. Immediately following this, please complete the final survey (Post PANAS-X). Enclose the survey package in the envelope provided and post to Lily Amorous, School of Psychology, University of Tasmania, Private Bag 30, Hobart 7000.

Researcher Contact Details
School of Psychology, University of Tasmania, Private Bag 30, Hobart 7000.

Lily Amorous (PhD Student) Ph: 03 6226 7664
Email: lamorous@postoffice.utas.edu.au

Professor Douglas Paton (Primary Research Supervisor) Ph: 03 6324 3193
Email: Douglas.Paton@utas.edu.au

Pre Creative Activity

Code Name: _____ Date: ____/____/____ Time: _____

PANAS-X

This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item hen mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way **RIGHT NOW**. Use the following scale to record your answers.

1	**2**	**3**	**4**	**5**
Very slightly or not at all	**A little**	**Moderately**	**Quite a bit**	**Extremely**

1. _____ cheerful
2. _____ disgusted
3. _____ attentive
4. _____ bashful
5. _____ sluggish
6. _____ daring
7. _____ surprised
8. _____ strong
9. _____ scornful
10. _____ relaxed
11. _____ irritable
12. _____ delighted
13. _____ inspired
14. _____ fearless
15. _____ disgusted with self
16. _____ sad
17. _____ calm
18. _____ afraid
19. _____ tired
20. _____ amazed
21. _____ shaky
22. _____ happy
23. _____ timid
24. _____ alone
25. _____ alert
26. _____ upset
27. _____ angry
28. _____ bold
29. _____ blue
30. _____ shy
31. _____ active
32. _____ guilty
33. _____ joyful
34. _____ nervous
35. _____ lonely
36. _____ sleepy
37. _____ excited
38. _____ hostile
39. _____ proud
40. _____ jittery
41. _____ lively
42. _____ ashamed
43. _____ at ease
44. _____ scared
45. _____ drowsy
46. _____ angry at self
47. _____ enthusiastic
48. _____ downhearted
49. _____ sheepish
50. _____ distressed
51. _____ blameworthy
52. _____ determined
53. _____ frightened
54. _____ astonished
55. _____ interested
56. _____ loathing
57. _____ confident
58. _____ energetic
59. _____ concentrating
60. _____ dissatisfied with self

Draw about the contents of your wardrobe.

Post Creative Activity

Code Name: _____ Date: ____/____/____ Time: _____

PANAS-X

This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item hen mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way **RIGHT NOW**. Use the following scale to record your answers.

1	**2**	**3**	**4**	**5**
Very slightly or not at all	**A little**	**Moderately**	**Quite a bit**	**Extremely**

1. _____ cheerful
2. _____ disgusted
3. _____ attentive
4. _____ bashful
5. _____ sluggish
6. _____ daring
7. _____ surprised
8. _____ strong
9. _____ scornful
10. _____ relaxed
11. _____ irritable
12. _____ delighted
13. _____ inspired
14. _____ fearless
15. _____ disgusted with self
16. _____ sad
17. _____ calm
18. _____ afraid
19. _____ tired
20. _____ amazed
21. _____ shaky
22. _____ happy
23. _____ timid
24. _____ alone
25. _____ alert
26. _____ upset
27. _____ angry
28. _____ bold
29. _____ blue
30. _____ shy
31. _____ active
32. _____ guilty
33. _____ joyful
34. _____ nervous
35. _____ lonely
36. _____ sleepy
37. _____ excited
38. _____ hostile
39. _____ proud
40. _____ jittery
41. _____ lively
42. _____ ashamed
43. _____ at ease
44. _____ scared
45. _____ drowsy
46. _____ angry at self
47. _____ enthusiastic
48. _____ downhearted
49. _____ sheepish
50. _____ distressed
51. _____ blameworthy
52. _____ determined
53. _____ frightened
54. _____ astonished
55. _____ interested
56. _____ loathing
57. _____ confident
58. _____ energetic
59. _____ concentrating
60. _____ dissatisfied with self

APPENDIX J

Written emotional disclosure survey package, repeated weeks 1-4.

Creativity as an Emotional Approach Coping Strategy

Creative Writing Activity

Week X

Instructions: Please complete the first survey (Pre PANAS-X) then immediately after completing the survey, spend 30-60 minutes writing about how you are currently feeling. Immediately following this, please complete the final survey (Post PANAS-X). Enclose the survey package in the envelope provided and post to Lily Amorous, School of Psychology, University of Tasmania, Private Bag 30, Hobart 7000.

Researcher Contact Details
School of Psychology, University of Tasmania, Private Bag 30, Hobart 7000.

Lily Amorous (PhD Student) Ph: 03 6226 7664
Email: lamorous@postoffice.utas.edu.au

Professor Douglas Paton (Primary Research Supervisor) Ph: 03 6324 3193
Email: Douglas.Paton@utas.edu.au

Pre Creative Activity

Code Name: _____ Date: ____/____/____ Time: _____

PANAS-X

This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item hen mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way **RIGHT NOW**. Use the following scale to record your answers.

1	**2**	**3**	**4**	**5**
Very slightly or not at all	**A little**	**Moderately**	**Quite a bit**	**Extremely**

1. _____ cheerful
2. _____ disgusted
3. _____ attentive
4. _____ bashful
5. _____ sluggish
6. _____ daring
7. _____ surprised
8. _____ strong
9. _____ scornful
10. _____ relaxed
11. _____ irritable
12. _____ delighted
13. _____ inspired
14. _____ fearless
15. _____ disgusted with self
16. _____ sad
17. _____ calm
18. _____ afraid
19. _____ tired
20. _____ amazed
21. _____ shaky
22. _____ happy
23. _____ timid
24. _____ alone
25. _____ alert
26. _____ upset
27. _____ angry
28. _____ bold
29. _____ blue
30. _____ shy
31. _____ active
32. _____ guilty
33. _____ joyful
34. _____ nervous
35. _____ lonely
36. _____ sleepy
37. _____ excited
38. _____ hostile
39. _____ proud
40. _____ jittery
41. _____ lively
42. _____ ashamed
43. _____ at ease
44. _____ scared
45. _____ drowsy
46. _____ angry at self
47. _____ enthusiastic
48. _____ downhearted
49. _____ sheepish
50. _____ distressed
51. _____ blameworthy
52. _____ determined
53. _____ frightened
54. _____ astonished
55. _____ interested
56. _____ loathing
57. _____ confident
58. _____ energetic
59. _____ concentrating
60. _____ dissatisfied with self

Write about how you are currently feeling.

Post Creative Activity

Code Name: _____ Date: ____/____/____ Time: _____

PANAS-X

This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item hen mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way **RIGHT NOW**. Use the following scale to record your answers.

1	**2**	**3**	**4**	**5**
Very slightly or not at all	**A little**	**Moderately**	**Quite a bit**	**Extremely**

1. _____ cheerful
2. _____ disgusted
3. _____ attentive
4. _____ bashful
5. _____ sluggish
6. _____ daring
7. _____ surprised
8. _____ strong
9. _____ scornful
10. _____ relaxed
11. _____ irritable
12. _____ delighted
13. _____ inspired
14. _____ fearless
15. _____ disgusted with self
16. _____ sad
17. _____ calm
18. _____ afraid
19. _____ tired
20. _____ amazed
21. _____ shaky
22. _____ happy
23. _____ timid
24. _____ alone
25. _____ alert
26. _____ upset
27. _____ angry
28. _____ bold
29. _____ blue
30. _____ shy
31. _____ active
32. _____ guilty
33. _____ joyful
34. _____ nervous
35. _____ lonely
36. _____ sleepy
37. _____ excited
38. _____ hostile
39. _____ proud
40. _____ jittery
41. _____ lively
42. _____ ashamed
43. _____ at ease
44. _____ scared
45. _____ drowsy
46. _____ angry at self
47. _____ enthusiastic
48. _____ downhearted
49. _____ sheepish
50. _____ distressed
51. _____ blameworthy
52. _____ determined
53. _____ frightened
54. _____ astonished
55. _____ interested
56. _____ loathing
57. _____ confident
58. _____ energetic
59. _____ concentrating
60. _____ dissatisfied with self

APPENDIX K

Placebo emotional disclosure survey package, repeated weeks 1-4.

Creativity as an Emotional Approach Coping Strategy

Creative Writing Activity

Week X

Instructions: Please complete the first survey (Pre PANAS-X) then immediately after completing the survey, spend 30-60 minutes writing about how you are currently feeling. Immediately following this, please complete the final survey (Post PANAS-X). Enclose the survey package in the envelope provided and post to Lily Amorous, School of Psychology, University of Tasmania, Private Bag 30, Hobart 7000.

Researcher Contact Details
School of Psychology, University of Tasmania, Private Bag 30, Hobart 7000.

Lily Amorous (PhD Student) Ph: 03 6226 7664
Email: lamorous@postoffice.utas.edu.au

Professor Douglas Paton (Primary Research Supervisor) Ph: 03 6324 3193
Email: Douglas.Paton@utas.edu.au

Pre Creative Activity

Code Name: _____ Date: ____/____/____ Time: _____

PANAS-X

This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item hen mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way **RIGHT NOW**. Use the following scale to record your answers.

1	**2**	**3**	**4**	**5**
Very slightly or not at all	**A little**	**Moderately**	**Quite a bit**	**Extremely**

1. _____ cheerful
2. _____ disgusted
3. _____ attentive
4. _____ bashful
5. _____ sluggish
6. _____ daring
7. _____ surprised
8. _____ strong
9. _____ scornful
10. _____ relaxed
11. _____ irritable
12. _____ delighted
13. _____ inspired
14. _____ fearless
15. _____ disgusted with self
16. _____ sad
17. _____ calm
18. _____ afraid
19. _____ tired
20. _____ amazed
21. _____ shaky
22. _____ happy
23. _____ timid
24. _____ alone
25. _____ alert
26. _____ upset
27. _____ angry
28. _____ bold
29. _____ blue
30. _____ shy
31. _____ active
32. _____ guilty
33. _____ joyful
34. _____ nervous
35. _____ lonely
36. _____ sleepy
37. _____ excited
38. _____ hostile
39. _____ proud
40. _____ jittery
41. _____ lively
42. _____ ashamed
43. _____ at ease
44. _____ scared
45. _____ drowsy
46. _____ angry at self
47. _____ enthusiastic
48. _____ downhearted
49. _____ sheepish
50. _____ distressed
51. _____ blameworthy
52. _____ determined
53. _____ frightened
54. _____ astonished
55. _____ interested
56. _____ loathing
57. _____ confident
58. _____ energetic
59. _____ concentrating
60. _____ dissatisfied with self

Write about the contents of your wardrobe.

Post Creative Activity

Code Name: _____ Date: ____/____/____ Time: _____

PANAS-X

This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item hen mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way **RIGHT NOW**. Use the following scale to record your answers.

1	**2**	**3**	**4**	**5**
Very slightly or not at all	**A little**	**Moderately**	**Quite a bit**	**Extremely**

1. _____ cheerful
2. _____ disgusted
3. _____ attentive
4. _____ bashful
5. _____ sluggish
6. _____ daring
7. _____ surprised
8. _____ strong
9. _____ scornful
10. _____ relaxed
11. _____ irritable
12. _____ delighted
13. _____ inspired
14. _____ fearless
15. _____ disgusted with self
16. _____ sad
17. _____ calm
18. _____ afraid
19. _____ tired
20. _____ amazed
21. _____ shaky
22. _____ happy
23. _____ timid
24. _____ alone
25. _____ alert
26. _____ upset
27. _____ angry
28. _____ bold
29. _____ blue
30. _____ shy
31. _____ active
32. _____ guilty
33. _____ joyful
34. _____ nervous
35. _____ lonely
36. _____ sleepy
37. _____ excited
38. _____ hostile
39. _____ proud
40. _____ jittery
41. _____ lively
42. _____ ashamed
43. _____ at ease
44. _____ scared
45. _____ drowsy
46. _____ angry at self
47. _____ enthusiastic
48. _____ downhearted
49. _____ sheepish
50. _____ distressed
51. _____ blameworthy
52. _____ determined
53. _____ frightened
54. _____ astonished
55. _____ interested
56. _____ loathing
57. _____ confident
58. _____ energetic
59. _____ concentrating
60. _____ dissatisfied with self

APPENDIX L

Cover letter for participants completing the follow-up battery of surveys

Date

Dear Participant,

Thank you for your continued support and interest into the study of "Creativity as an Emotional Approach Coping Strategy". It has now been six months since the completion of the pre-intervention survey and I am asking for your support again in the follow up "post intervention survey".

Preliminary results from the first surveys are very positive, therefore it is very important that the follow up surveys are completed to further assist in the understanding of the preliminary results.

Please take time (approximately 15 to 20 minutes) to complete the post intervention surveys. For those who did not complete all four creative activities, it is still vitally important that you please complete the post intervention survey.

Please post the completed in the provided return envelope immediately upon completion.

Results from this research will be available to view on-line at a later date, and will also be posted to you, so please ensure that your address and personal details are updated on the forms.

Once again, I would like to sincerely thank you for your contribution into this very exciting research. Should you have any questions or concerns, please do not hesitate to contact myself on lamorous@postoffice.utas.edu.au.

Warm Regards,

Lily Amorous
(B.Psych, Honours; PhD (Clinical Psychology) Candidate)

APPENDIX M

Randomisation check: Results of univariate analysis of variance (ANOVAs) for socio-demographic and baseline outcome variables

Table 6

Randomisation check: Results of Univariate Analysis of Variance (ANOVAs) for Socio-demographic and Baseline Outcome Variables

Baseline Variable	*df*		*M*	*F*	*p*
Age	4	EDW	41.7	1.71	.15
		EDD	38.1		
		PDW	40.4		
		PDD	37.2		
		Control	46.6		
Sex	4	EDW	.96	3.35	.01
		EDD	.95		
		PDW	.77		
		PDD	.81		
		Control	.66		
Marital Status	4	EDW	.82	1.61	.17
		EDD	1.1		
		PDW	.83		
		PDD	.75		
		Control	1.3		
Number of children	4	EDW	1.03	1.74	.14
		EDD	.95		
		PDW	.66		
		PDD	.43		
		Control	1.4		
Level of education	4	EDW	2.20	.43	.79
		EDD	2.45		
		PDW	2.05		
		PDD	2.31		
		Control	2.23		
Employment status	4	EDW	.96	1.03	.39
		EDD	1.13		
		PDW	1.11		
		PDD	.5		
		Control	1.1		
COPE Positive reinterpretation and growth	4	EDW	11.95	.29	.88
		EDD	11.63		
		PDW	11.16		
		PDD	12.0		
		Control	11.6		
COPE Mental disengagement	4	EDW	10.82	2.82	.03
		EDD	10.18		
		PDW	9.55		

		PDD	10.62		
		Control	8.7		
COPE Focusing on and venting emotions	4	EDW	10.58	.10	.98
		EDD	10.77		
		PDW	10.27		
		PDD	10.43		
		Control	10.48		
COPE Seeking social support for instrumental reasons	4	EDW	10.72	1.51	.20
		EDD	11.81		
		PDW	10.11		
		PDD	9.8		
		Control	9.9		
COPE Active coping	4	EDW	11.07	.40	.80
		EDD	11.22		
		PDW	11.22		
		PDD	11.81		
		Control	10.8		
COPE Denial	4	EDW	6.2	.83	.51
		EDD	5.91		
		PDW	5.44		
		PDD	6.56		
		Control	5.43		
COPE Religious coping	4	EDW	6.38	1.18	.32
		EDD	6.0		.
		PDW	5.11		
		PDD	5.25		
		Control	7.03		
COPE Humour	4	EDW	6.31	1.45	.22
		EDD	7.63		
		PDW	7.77		
		PDD	7.93		
		Control	8.03		
COPE Behavioural disengagement	4	EDW	5.86	1.10	.36
		EDD	5.91		
		PDW	5.88		
		PDD	7.27		
		Control	6.43		
COPE	4	EDW	9.96	.32	.86

Restraint		EDD	10.27		
		PDW	9.88		
		PDD	10.68		
		Control	10.0		
COPE Seeking social support for emotional reasons	4	EDW	10.2	.34	.85
		EDD	9.91		
		PDW	10.16		
		PDD	9.25		
		Control	10.43		
COPE Substance use	4	EDW	6.13	.83	.50
		EDD	7.45		
		PDW	6.88		
		PDD	6.81		
		Control	7.83		
COPE Acceptance	4	EDW	10.51	.33	.85
		EDD	10.72		
		PDW	10.66		
		PDD	11.43		
		Control	10.66		
COPE Suppression of competing activities	4	EDW	8.82	1.08	.37
		EDD	9.61		
		PDW	9.33		
		PDD	10.37		
		Control	9.76		
COPE Planning	4	EDW	12.1	.32	.86
		EDD	11.6		
		PDW	11.44		
		PDD	12.31		
		Control	12.0		
Emotional approach coping	4	EDW	23.41	1.88	.12
		EDD	23.86		
		PDW	20.72		
		PDD	20.62		
		Control	21.33		

OQ-45 Total	4	EDW	116.13	3.13	.01
		EDD	113.31		
		PDW	118.99		
		PDD	125.75		
		Control	109.73		
OQ-45 Symptom distress	4	EDW	61.72	3.2	.01
		EDD	58.81		
		PDW	62.45		
		PDD	68.43		
		Control	55.19		
OQ-45 Interpersonal relations	4	EDW	31.1	.78	.53
		EDD	30.6		
		PDW	31.0		
		PDD	32.06		
		Control	30.08		
OQ-45 Social role	4	EDW	23.3	1.99	.10
		EDD	23.9		
		PDW	25.5		
		PDD	25.2		
		Control	23.9		
Satisfaction with life	4	EDW	23.3	.23	.92
		EDD	24.0		
		PDW	25.2		
		PDD	24.4		
		Control	23.7		

Note. *df* = Degrees of freedom, *M* = Mean, *F* = F value, *p* = significance level, EDW = Emotional disclosure writing group, EDD = Emotional disclosure drawing group, PDW = Placebo disclosure writing group, PDD = placebo disclosure drawing group, Control = Control group.